IN THE UNITED STATES DISTRICT COURT FOR THE SOUTHERN DISTRICT OF TEXAS HOUSTON DIVISION

UNITED STATES OF AMERICA, EX REL. KENNETH W. ABBOTT, ET AL.,	§	
Plaintiffs,	§	Civil Action No. 4:09-cv-01193
v.	§	Jury Trial Requested
BP EXPLORATION AND PRODUCTION INC., ET AL.,	§	
Defendants.	§	

PLAINTIFFS' REVISED MOTION FOR SUMMARY JUDGMENT

PERRY & HAAS
David L. Perry
René Haas
P.O. Box 1500
Corpus Christi, TX 78403
Tel. (361) 880-7500
Fax. (361) 887-9507

MALLETT, SAPER, BERG LLP
Edward A. Mallett
JPMorgan Chase Tower
600 Travis St., Suite 1900
Houston, Texas 77002
Tel. (713) 236-1900
Fax. (713) 228-0321

HOGAN & HOGAN
Richard P. Hogan, Jr.
Jennifer Bruch Hogan
909 Fannin, Suite 2700
Houston, TX 77010
Tel. (713) 222-8800
Fax. (713) 222-8810

WATTS GUERRA CRAFT LLP
Mikal C. Watts
J. Hunter Craft
Four Dominion Drive
Bldg. 3, Suite 100
San Antonio, TX 78257
Tel. (210) 447-0500
Fax. (210) 447-0501

Christopher V. Goodpastor
811 Barton Springs Road, Suite 725
Austin, TX 78704
Tel. (512) 479-0500
Fax. (512) 479-0502

Mary M. Whittle
Attorney at Law
3930 Argyle Terrace, N.W.
Washington, D.C. 20011
Tel. (202) 320-1612

Attorneys for Plaintiffs

TABLE OF CONTENTS

Page

TABLE OF AUTHORITIES v
INTRODUCTION 1
SUMMARY OF ARGUMENT 2
STANDARD OF REVIEW 6
STATUTORY FRAMEWORK 6
A. OCSLA 7
B. THE FALSE CLAIMS ACT ("FCA") 9
1. Introduction 9
2. False Statement or Fraudulent Course of Conduct 10
3. Scienter 12
4. Materiality 13
5. Payment of Claim 14
ATLANTIS LEASE TERMS 14
FACTUAL BACKGROUND 15
A. ABBOTT IS THE ORIGINAL SOURCE. 15
1. Introduction 15
2. Abbott's Direct and Independent Knowledge of BP's Fraud 16
3. Abbott's Claims Are Not Barred By the FCA Public Disclosure Bar. 18
B. SAFETY CONCERNS 20
C. ATTEMPTS AT RESOLUTION 21
D. ABBOTT'S EFFORTS AFTER TERMINATION 22
E. MMS INVESTIGATION 24
ARGUMENT 25
A. BP'S ATLANTIS PLATFORM PERMIT APPLICATION WAS A FALSE CLAIM FOR GOVERNMENT PROPERTY 25
1. Introduction 25
2. The Atlantis Detailed Structural Plans and Specifications Were Not Certified by Registered Professional Engineers. 28
a. No Factual Dispute Exists Regarding Which Drawings Are Covered By BP's Platform Certification. 28

b. The Atlantis Hull Was Designed by a Korean Shipbuilding Firm That BP Knew Could Not Certify Engineering Drawings As Registered Professional Engineers. 29

c. An Engineering Drawing Is "Certified" By Application of a Seal. 33

d. BP Knew That Seals Were Required. 34

e. BP Knew That Its Platform Certification Regarding Professional Engineering Certification Was False. 36

3. BP Did Not Develop "As-Built" Drawings. 39

a. BP Did Not Perform "As-Builting." 39

b. BP's Failure to Follow Its Own Specifications Requiring "As-Built" Stamps Shows That "As-Builting" Never Occurred. 41

c. Atlantis Was Over Budget By Almost $4 Billion. 44

d. BP Claims to Rely On Documentum to Find Latest Revision. 45

e. "As-Built" Drawings Are Critical to Safe Operations. 49

f. BP Acted in Reckless Disregard of the Falsity of Its Platform Certification Regarding "As-Built" Drawings. 51

g. Todd Misled MMS About BP's "As-Built" Standards. 52

4. BP's False Certifications Were Material to the Platform Permit Approval. 53

B. BP'S ATLANTIS PRODUCTION SAFETY SYSTEM APPLICATION WAS A FALSE CLAIM FOR GOVERNMENT PROPERTY. 55

1. Introduction 55

2. Definition of Production Safety System 56

3. Production Safety System Permit Application and Approval 57

4. The Designs for the Atlantis Mechanical and Electrical Systems Were Not Approved By Registered Professional Engineers. 58

a. A Texas Registered Professional Engineer Who Approves an Engineering Document Must Seal the Document. 58

b. None of the Designs for the Production Safety System Bear the Stamp or Seal of an Individual Registered Professional Engineer. 61

c. BP's Contractors Admit No Registered Professional Engineer Approved the Designs For The Mechanical and Electrical Systems of the Atlantis Production Safety System. 63

d. BP Made No Effort To Verify that Its Certification Was True. 66

e. MMS Accepted the Certification Submitted Without Further Inquiry. .. 67

f. An Engineering Firm Cannot Approve Designs As A Registered Professional Engineer. 69

g. BP Acted in Deliberate Ignorance By Submitting Its Production Safety System Certification Without Confirming Its Truthfulness. 71

5. BP's False Certification Was Material to the Production Safety System Permit Approval. 72

C. DAMAGES ARE EQUAL TO THE ATLANTIS FIELD RESERVES VALUE. 73

1. Introduction 73

2. Statutory Basis for Damages 74

3. The Government Can Recover As Actual Damages The Value Of The Oil and Gas BP Obtained Because Of The False Permit Applications. 74

4. The United States Is Entitled to Treble Damages. 78

5. Royalty Payments on Produced Oil and Gas May Be Subtracted From the Trebled Damage Amount. 79

D. THE ATLANTIS SHOULD UNDERGO AN AGGRESSIVE AUDIT AND REPAIR OR BP'S LEASES SHOULD BE REVOKED. 80

1. Introduction 80

2. Plaintiffs Have Standing to Seek Injunctive Relief Under OCSLA. 81

a. Plaintiffs Will Be Injured if BP is Not Enjoined. 83

b. Plaintiffs' Threatened Injury is Traceable to BP's Conduct. 87

c. Plaintiffs' Claims are Redressable. 89

3. BP's Continued Operation of Atlantis Is Dangerous. 90

a. BP Has Violated OCSLA and MMS Regulations. 91

b. BP's Conduct Poses a Substantial Threat of Irreparable Harm. 91

(1) BP's Failure to Obtain Approval By Registered Professional Engineers of its Designs Increases the Risk of an Oil Spill or Explosion. 92

(a) Introduction 92

(b) Atlantis Pressure Relief Valves Are Not Fit for Service According to BP's Own Criteria. 93

(c) Atlantis Production Safety System Subsea Controls System Has Experienced Repeated Malfunctions Resulting In Loss of Well Control. 97

(d) The Design of the Atlantis Controls Violated Federal Regulations. 101

(2) BP's Failure to Develop "As-Built" Drawings Creates a Significant Threat of Harm to Persons, Property, and the Environment. 105

c. The Threatened Injury Outweighs Harm to BP 107

d. The Public Interest Weighs In Favor of Granting Injunction 107

4. A Special Master Should Be Appointed To Oversee a Remediation Plan.....108

CONCLUSION 108

CERTIFICATE OF SERVICE 111

TABLE OF AUTHORITIES

CASES

Abbott v. BP Exploration and Production, Inc.,
781 F. Supp. 2d 453 (S.D. Tex 2011) ..... passim

Ab-Tech Construction, Inc. v. United States,
31 Fed. Cl. 429 (Fed. Cl. 1994) 76

Allison Engine. Co. v. United States ex rel. Sanders,
553 U.S. 662 (2008) 19

Amoco Prod. Co. v. Village of Gambell,
480 U.S. 531 (1987) 88, 105, 106

Anderson v. Liberty Lobby, Inc.,
477 U.S. 242 (1986) 6

Ashwander v. Tennessee Valley Authority,
297 U.S. 288 (1936) 7

Babbitt v. United Farm Workers Nat'l Union,
442 U.S. 289 (1979) 84

Bangor Water Dist. v. Malcolm Pirnie Eng'rs,
534 A.2d 1326 (Me. 1988) 39

Beck v. Sampson,
186 A.2d 783 (Me. 1962) 34

Bolton v. City of Dallas,
472 F.3d 261 (5th Cir. 2006) 6

Bowsher v. Synar,
478 U.S. 714 (1986) 80

Conservation Law Found. of New England, Inc. v. Secr'y of Interior,
790 F.2d 965 (1st Cir. 1986) 82

Cook Cty., Ill. v. United States ex rel. Chandler,
538 U.S. 119 (2003) 72

Ctr. for Biological Diversity v. U.S. Dept. of Interior,
563 F.3d 466 (D.C. Cir. 2009) 82

DiBiase Corp. v. Jacobowitz,
682 N.E.2d 1382 (Mass. App. Ct. 1997) 39

Elliott v. Fosdick & Hilmer,
460 N.E.2d 257 (Ohio Ct. App. 1983) 39

Faulk v. United States,
198 F.2d 169 (5th Cir. 1952) 78

Fort Stewart Schools v. Federal Labor Relations Auth.,
495 U.S. 641 (1990) 9

Friends of Earth, Inc. v. Laidlaw Envtl. Serv. (TOC), Inc.,
528 U.S. 167 (2000) 81

Friends of the Earth, Bluewater Network Div. v. U.S. Dept. of Interior,
478 F. Supp. 2d 11 (D.D.C. 2007) 81

Friends of the Earth, Inc. v. Gaston Copper Recycling Corp.,
204 F.3d 149 (4th Cir. 2000) 85

George Thomas Home, Inc. v. Southwest Tension Systems, Inc.,
763 S.W.2d 797 (Tex. App.—El Paso 1998, no writ) 33

Gladstone Realtors v. Village of Bellwood,
441 U.S. 91 (1979) 84

Glenn v. Nortex Foundation Designs, Inc.,
2008 WL 2078510 (Tex. App—Ft. Worth May 15, 2008, pet. denied) 33

Havens Realty Corp. v. Coleman,
455 U.S. 363 (1982) 81

Justheim v. McKay,
229 F.2d 29 (D.C. Cir. 1956) 7

Lake Charles Diesel, Inc. v. GMC,
328 F.3d 192 (5th Cir. 2003) 89

Little v. Shell Exploration & Production Co.,
2011 WL 1370565 (S.D. Tex. Apr. 8, 2011) 15

Lujan v. Defenders of Wildlife,
504 U.S. 555 (1992) 80, 86, 87

Marcus v. Hess,
317 U.S. 537 (1943) 9

Massachusetts v. E.P.A.,
549 U.S. 497 (2007) 80, 88

Massachusetts v. EPA,
549 U.S. 497 (2007) 84

McIntosh Land Co. Ltd. P'ship v. Fairfield Fletcher Ltd. P'ship,
2005 WL 2656577 (M.D. Fla. Oct. 18, 2005) 38

Mississippi Power & Light Co. v. United Gas Pipe Line Co.,
760 F.2d 618 (5th Cir. 1985) 89

Mobil Oil Exploration and Producing Southeast, Inc. v. United States,
530 U.S. 604 (2000) 8, 74

Mountain States Legal Found. v. Glickman,
92 F.3d 1228 (D.C. Cir. 1996) 84

Nat'l Taxpayers Union, Inc. v. United States,
68 F.3d 1428 (D.C. Cir. 1995) 80

Natural Res. Def. Council ("NRDC") v. EPA,
464 F.3d 1 (D.C. Cir. 2006) 85

Natural Res. Def. Council v. E.P.A.,
489 F.3d 1364 (D.C. Cir. 2007) 88

Overseas Shipholding Group, Inc. v. Skinner,
767 F.Supp. 287 (D.D.C. 1991) 85

Public Interest Research Group of N.J., Inc. v. Powell Duffryn Terminals, Inc.,
913 F.2d 64 (3d Cir. 1990) 81, 86

Riley v. St. Luke's Episcopal Hospital,
252 F.3d 749 (5th Cir. 2001) 9

Royal Indemnity Co. v. U.S.,
313 U.S. 289 (1941) 7

Save Our Comm. v. E.P.A.,
971 F.3d 1155 (5th Cir. 1992) 81, 82, 86

Sec'y of the Interior v. California,
464 U.S. 312 (1984) 7, 8

Septimus v. Univ. of Houston,
399 F.3d 601 (5th Cir. 2005) 6

Sierra Club v. Morton,
405 U.S. 727 (1972) 81

Sierra Club, Lone Star Chapter v. Cedar Point Oil Co., Inc.,
73 F.3d 546 (1996) 85

Simon v. E. Ky. Welfare Rights Org.,
426 U.S. 26 (1976) 80

South Park Land & Livestock Co., Inc. v. Hamiton Enter., Ltd.,
538 P.2d 444 (Co. 1975) 34

Springfield Terminal Ry. v. Quinn,
14 F.3d 645 (D.C. Cir. 1994) 19

Steel Co. v. Citizens for a Better Env't,
523 U.S. 83 (1998) 80

UMC Elecs. Co. v. United States,
43 Fed. Cl. 776 (Fed. Cl. 1999) 13, 67, 70

United States ex rel. Augustine v. Century Health Services,
289 F.3d 409 (6th Cir. 2002) 12, 51

United States ex rel. Cantekin v. Univ. of Pittsburgh,
192 F.3d 402 (3d Cir. 1999) 37

United States ex rel. Compton v. Midwest Specialties, Inc.,
142 F.3d 296 (6th Cir. 1998) 13, 76

United States ex rel. Farmer v. City of Houston,
523 F.3d 333 (5th Cir. 2008) 12, 70

United States ex rel. Grubbs v. Kanneganti,
565 F.3d 180 (5th Cir. 2009) 16, 18, 19

United States ex rel. Longhi v. Lithium Power Tech.,
513 F. Supp. 2d 866 (S.D. Tex. 2007) ..... passim

United States ex rel. Longhi v. Lithium Power Tech.,
575 F.3d 458 (5th Cir. 2009) *cert. denied*, 130 S. Ct. 2092 (2010) ..... passim

United States ex rel. Marcus v. Hess,
317 U.S. 537 (1943) 73

United States ex rel. Purcell v. MWI Corp.,
520 F. Supp. 2d 158 (D.D.C. 2007) 76, 77

United States ex rel. Reagan v. E. Tex. Ctr. Reg'l Healthcare Sys., 384 F.3d 168 (5th Cir. 2004) 15, 19

United States ex rel. Rosales v. San Francisco Housing Auth., 173 F. Supp. 2d 987 (N.D. Cal. 2001) 75

United States ex rel. Schwedt v. Planning Research Corp., 59 F.3d 196 (D.C. Cir. 1995) 77

United States ex rel. Thompson v. Columbia/HCA Healthcare Corp., 125 F.3d 899 (5th Cir. 1997) 11, 13

United States ex rel. Wilson v. Kellogg Brown & Root, Inc., 525 F.3d 370 (4th Cir. 2008) 10

United States of America, The State of New York ex rel. Assoc. Against Outlier Fraud v. Huron Consulting Group, 2012 WL 506824 (S.D.N.Y. Feb. 16, 2012) 18

United States v. Aerodex, 469 F.2d 1003 (5th Cir. 1972) 37, 38, 73

United States v. Bornstein, 423 U.S. 303 (1976) 78

United States v. Hibbs, 568 F.2d 347 (3d Cir. 1977) 77

United States v. Killough, 848 F.2d 1523 (11th Cir. 1988) 73

United States v. Krizek, 111 F.3d 934 (D.C. Cir. 1997) 70

United States v. Lorenzo, 768 F. Supp. 1127 (E.D. Pa. 1991) 70

United States v. Mackby, 339 F.3d 1013 (9th Cir. 2003) 75

United States v. Marine Shale Processors, 81 F.3d 1329 (5th Cir. 1996) 89

United States v. Miller, 645 F.2d 473 (5th Cir. 1981) 77

United States v. Neifert-White Co.,
390 U.S. 228 (1968) 11

United States v. Race,
632 F.2d 1114 (4th Cir. 1980) 67

United States v. Rogan,
517 F.3d 449 (7th Cir. 2008) 75

United States v. Science Applications Intern. Corp.,
626 F.3d 1257 (D.C. Cir. 2010) 13

United States v. Students Challenging Regulatory Agency Procedures (SCRAP),
412 U.S. 669 (1973) 81

United States v. TDC Management Corp., Inc.,
288 F.3d 421 (D.C. Cir. 2002) 75, 76

United States v. Thomas,
709 F.2d 968 (5th Cir. 1983) 78

United States v. Woodbury,
359 F.2d 370 (9th Cir. 1966) 76

Valley Forge Christian College v. Americans United for Separation of Church and State, Inc.,
454 U.S. 464 (1982) 84

Vermont Agency of Nat'l Res. v. United States ex rel. Stevens,
120 S. Ct. 1858 (2000) 9

Village of Elk Grove Village v. Evans,
997 F.2d 328 (7th Cir. 1993) 85

W. Va. Highlands Conservancy v. Johnson,
540 F. Supp. 2d 125 (D.D.C. 2008) 88

Warth v. Seldin,
422 U.S. 490 (1975) 88

Watt v. Energy Action Educ. Found.,
454 U.S. 151 (1981) 80

Wiley v. State Farm Fire and Cas. Co.,
585 F.3d 206 (5th Cir. 2009) 6

STATUTES

30 C.F.R. § 250.905(k) 25, 28

31 U.S.C. § 3729 1

31 U.S.C. § 3729(a) 72

31 U.S.C. § 3729(a)(1) 6, 12, 19

31 U.S.C. § 3729(a)(1)(A) 10

31 U.S.C. § 3729(a)(1)(B) 10

31 U.S.C. § 3729(a)(2) 10, 12, 19

31 U.S.C. § 3729(b)(1) 12

31 U.S.C. § 3729(b)(2) 10, 11

31 U.S.C. § 3730(b)(2) 22

31 U.S.C. § 3730(e)(4)(B) 15

43 U.S.C. § 1302 7

43 U.S.C. § 1311 7

43 U.S.C. § 1331 1

43 U.S.C. § 1331(a) 7

43 U.S.C. § 1332(3) 8

43 U.S.C. § 1332(6) 8, 96

43 U.S.C. § 1334(a) 7, 79

43 U.S.C. § 1334(b) 7, 79

43 U.S.C. § 1334(d) 8, 79

43 U.S.C. § 1337(a)(1) 7

43 U.S.C. § 1337(a)(1)(A) 7

43 U.S.C. § 1344 14

43 U.S.C. § 1349(a)(1) 6, 9

43 U.S.C. § 1349(a)(6) 9

43 U.S.C. § 1350(c) 9

Act of May 22, 2001, 77th Leg., ch. 1421, § 1, 2001 Tex. Gen. Laws 4570, 4587 (previously codified as TEX. OCC. CODE § 1001.401(b)) 58

CAL. BUS. & PROF. CODE § 6701 68

CAL. BUS. & PROF. CODE § 6704 90

CAL. BUS. & PROF. CODE § 6732 68

CAL. BUS. & PROF. CODE § 6735.5 58

LA. R.S. 37:681 ..... 58, 90

LA. R.S. 37:682(10) 58

LA. R.S. 37:682(4) 68

NEV. REV. STAT. § 625.407 68

NEV. REV. STAT. § 625.005 90

NEV. REV. STAT. § 625.060 68

NEV. REV. STAT. § 625.520 58

TEX. OCC. CODE § 1001.002 68

TEX. OCC. CODE § 1001.003(b) 58

TEX. OCC. CODE § 1001.003(c) 58

TEX. OCC. CODE § 1001.004(b)(3) 59

TEX. OCC. CODE § 1001.004(c) 58

TEX. OCC. CODE § 1001.301 58

TEX. OCC. CODE § 1001.301(a) 68

TEX. OCC. CODE § 1001.401 ..... 33, 58, 60

TEX. OCC. CODE § 1001.401(a) 68, 90

TEX. OCC. CODE § 1001.401(b) 33, 58, 60, 68

TEX. OCC. CODE § 1001.405(e)(3) 68

TEX. OCC. CODE § 1004.405(c) 68

TEX. OCC. CODE. § 1001.405(b) 68

UTAH CODE § 58-22-102 68

UTAH CODE § 58-22-601 58

UTAH CODE § 58-22-603 68

RULES

FED. R. CIV. P. 56(c) 6

LOUISIANA RULES, 46 LA ADC Pt LXI, § 2701(A)(4)(a)(i) 68

NEVADA RULES, NAC 625.610 68

UTAH RULES, UTAH ADMIN. CODE R156-22-302c 90

REGULATIONS

22 TEX. ADMIN. CODE § 131.81(10) 59

22 TEX. ADMIN. CODE § 133.11 68

22 TEX. ADMIN. CODE § 137.1 58

22 TEX. ADMIN. CODE § 137.33(a) 58

22 TEX. ADMIN. CODE § 137.33(b) 59

30 C.F.R. § 250.198 55

30 C.F.R. § 250.281 ..... 9, 11, 53, 70

30 C.F.R. § 250.800 79

30 C.F.R. § 250.800(a) 9, 11, 54, 71

30 C.F.R. § 250.801(i) 100

30 C.F.R. § 250.802(a) 74, 79

30 C.F.R. § 250.802(b) 79

30 C.F.R. § 250.802(e) ..... passim

30 C.F.R. § 250.802(e)(3) 55

30 C.F.R. § 250.802(e)(5) 10, 54, 56, 71

30 C.F.R. § 250.803(b)(1) 79, 91, 92, 94

30 C.F.R. § 250.803(B)(1) 91

30 C.F.R. § 250.803(b)(4) 100, 102

30 C.F.R. § 250.803(b)(4)(ii) 99, 100

30 C.F.R. § 250.900(a) 74, 79

30 C.F.R. § 250.900(b) 79

30 C.F.R. § 250.900(b) (2002) 25, 26, 53

30 C.F.R. § 250.900(b) (2000) 9

30 C.F.R. § 250.900(c) (2002) 26, 79

30 C.F.R. § 250.901 (2002) 10, 25, 33

30 C.F.R. § 250.901(d) 31, 32, 37

30 C.F.R. § 250.901(d) (2002) 10, 25, 53, 79

30 C.F.R. § 250.902 (2002) 31, 37

30 C.F.R. § 250.903 (2006) 52

30 C.F.R. § 250.905(j) 19

30 C.F.R. § 250.905(k) 25, 28

67 Fed. Reg. 51,757 55

70 Fed. Reg. 41556, 41517-72 (July 19, 2005) 52

OTHER AUTHORITIES

BLACK'S LAW DICT. (9th ed. 2009) 33, 66

House Comm. on Licensing & Admin. Procedures,
Bill Analysis, Tex. C.S.H.B. 1817, 79th Leg., R.S. (2005) 60

MERRIAM-WEBSTER'S COLLEGIATE DICT., 10th Edition (1999) 66

S. Rep. No. 615, 96th Cong. 73

S. Rep. No. 99-345 13

Tex. Att'y Gen. Op. GA-0274 (2004),
2004 WL 2678848 (Tex. A.G.) 69

Tex. Att'y Gen. Op. No. GA-0287 (2004),
2004 WL 2980275 (Tex. A.G.) 59, 66

U.S. CONST. art. IV, §3, cl. 2 7

INTRODUCTION

Plaintiffs United States of America *ex rel.* Kenneth W. Abbott, Kenneth W. Abbott, individually ("Abbott"), and Food & Water Watch, Inc. ("FWW"), respectfully move this Court to grant summary judgment in favor of Abbott on his claims under the False Claims Act, 31 U.S.C. § 3729, *et seq.* ("FCA"), and in favor of Abbott and FWW on their claims under the Outer Continental Shelf Lands Act, 43 U.S.C. § 1331, *et seq.* ("OCSLA").

Plaintiffs' claims arise from BP's[1] false certifications in permit applications to the Minerals Management Service ("MMS")[2] seeking to install the Atlantis platform in the Gulf of Mexico and the platform's production safety system and to extract publicly owned oil and gas. BP was required to have designs for the Atlantis approved by registered professional engineers. BP was required to develop "as-built" plans and specifications for the platform. BP falsely certified to both and is liable for the full value of the Atlantis field. Atlantis is unsafe; its continued unsafe operation should be enjoined, and BP should be required to upgrade Atlantis to comply with critical safety and environmental regulations. In the alternative, BP's leases should be revoked.

[1] BP Exploration and Production Inc., BP America Inc., BP p.l.c., and BP Products North America Inc. (collectively, "BP").

[2] On May 19, 2010, MMS was divided into three independent entities and temporarily renamed the Bureau of Ocean Energy Management, Regulation and Enforcement ("BOEMRE"). On October 1, 2011, the Bureau of Safety and Environmental Enforcement ("BSEE") was created and is the agency currently charged with enforcement of safety and environmental regulations at issue in the instant case. *See* "The Reorganization of the Former MMS," at http://bsee.gov/About-BSEE/Reorganization/Reorganization.aspx (last visited 11/17/2011). Because the vast majority of activity giving rise to this suit took place while the agency was named MMS, this memorandum will refer to it as MMS.

SUMMARY OF ARGUMENT

In permit applications requesting government approval to install the Atlantis platform and production safety system, which are conditions precedent to oil and gas production, BP knowingly and falsely certified compliance with engineering requirements that are essential to the safe functioning of the necessary installations. Based on these false certifications, MMS granted BP the critical permits, allowing BP to produce oil and gas from the five unitized leases that make up the Atlantis field.

First, BP falsely certified in its platform permit application that registered professional engineers would certify the detailed structural plans for the Atlantis as required under OCSLA regulations subpart I. When BP submitted its application, BP already had contracted with a Korean ship-building firm to perform the detailed design work for the hull, and BP already knew that the Korean designers could not certify their plans because they were not registered professional engineers. BP deliberately chose not to inform MMS that the detailed structural plans of the weight-bearing hull would not and could not be certified as required by the regulation. BP also did not seek permission for alternate means of compliance. After fabrication in Korea, the hull required extensive remediation by BP: entire systems were rebuilt at the integration yard in Ingleside, Texas. Of the 1154 design drawings for the hull and floating structure of the platform, only 8 drawings (0.7%) are certified with a registered professional engineer's seal.

Second, BP falsely certified in its platform permit application that "as-built" plans and specifications for Atlantis would be developed and kept on file at BP's offices in Houston. Uncontroverted testimony reveals that neither BP nor its contractors

undertook performing the "as-built" process required for the Atlantis integrated platform structure or developed a full set of "as-built" plans and specifications at commissioning. BP's records also demonstrate that "as-builting" never occurred; only 3.4% of the drawings are revised "as-built."

Third, BP falsely certified in its production safety system permit application that registered professional engineers had reviewed and approved the designs for the mechanical and electrical systems of the Atlantis production safety system. BP submitted 522 design drawings in support of its application, but none (0%) bears the stamp or seal of a registered professional engineer. The controls for the production safety system, along with the SAFE Chart and the safety shutdown logic, were not developed by registered professional engineers. BP's contractors conceded that no individual registered professional engineer approved the designs for the mechanical and electrical systems of the production safety system–the drawings themselves have no professional engineer seal, no one approved the designs for the systems in writing, and no one approved the designs for the systems orally. BP subcontracted to engineering companies, but those companies did not bring BP into compliance. Hiring an engineering firm registered in the State of Texas is not equivalent to approval by an individual licensed and registered professional engineer.

The facts underlying BP's false certifications, including BP's failure to develop and maintain the critical engineering drawings required by OCSLA regulations since before first oil in October 2007, pose a significant and imminent threat to the Gulf of Mexico ecosystem. The production safety system is required to include pressure relief

safety valves to prevent explosions or loss of containment due to overpressure, and BP lacks the necessary design basis for over one-third of the Atlantis pressure relief safety valves. One valve in particular is undersized by a factor of 20 to 1, and a release of explosive oil and gas under pressure from that pipeline when ignited could rapidly engulf the platform in explosions and fire.

Another example found in BP's records: The controls of the Atlantis production safety system have experienced repeated failures that have not been remedied – valves open and close without command, oil leaks to the wellhead through the annulus, and communication between the well and operations has been lost repeatedly. These failures are directly attributable to improper engineering. BP witnesses have acknowledged that the failures could result in additional release of oil and gas into the Gulf. The safety shutdown controls were not in compliance with required performance standards from the start of production for more than a year before BP realized major design flaws. BP's expert testified that the problems may continue through today.

BP's failure to maintain a complete set of "as-built" drawings on which operations personnel can rely is a violation of process safety. A lack of "as-builts" was one of the reasons BP was unable to stem the Deepwater Horizon spill. The oil flowed for several hours after the blowout preventer failed while BP employees searched for "as-built" drawings. BP and others were unable to take appropriate remedial measures because the available drawings were not "as-built" drawings, *i.e.*, they did not depict the facility as it was actually installed. Further, failures associated with the improper design and construction of the hull of BP's Thunder Horse caused the near sinking of

that platform in 2005. Thunder Horse was designed and fabricated by the same Korean ship-building firm as Atlantis, a firm BP admits does not employ registered professional engineers.

As a consequence of BP's false certifications, the United States is entitled to damages equalling the full value of the Atlantis field. The United States awarded the Atlantis field leases to BP through a competitive bidding process, and BP's rights under the leases were conditioned on BP's compliance with all OCSLA regulations. Through the permit process, the United States received assurances from BP that its Atlantis installations complied with regulations requiring proper engineering and "as-built" plans and specifications for safe operation of the production facility. In fact, those assurances were untrue and worthless. The United States is entitled to damages, namely, the value of the people's oil and gas that BP has taken as a result of BP's successful fraud.

Finally, BP's operation of Atlantis should be enjoined until BP develops a full set of "as-built" plans and specifications and registered professional engineers certify both the detailed structural plans for the platform and the designs for the mechanical and safety systems of the production safety system. In the alternative, BP's leases should be revoked for violations of law.

For these reasons, plaintiffs respectfully request that this Court hold BP liable under the FCA and OCSLA, award damages to the United States, assess statutory penalties for BP's false claims, and enjoin operation of Atlantis or revoke BP's leases.

STANDARD OF REVIEW

Summary judgment is appropriate "if the pleadings, depositions, answers to interrogatories, and admissions on file, together with the affidavits, if any, show that there is no genuine issue as to any material fact and that the moving party is entitled to a judgment as a matter of law." FED. R. CIV. P. 56(c); *see Bolton v. City of Dallas*, 472 F.3d 261, 263 (5th Cir. 2006). "A fact is material only if its resolution would affect the outcome of the action . . . and an issue is genuine only 'if the evidence is sufficient for a reasonable jury to return a verdict for the [nonmovant].'" *Wiley v. State Farm Fire and Cas. Co.*, 585 F.3d 206, 210 (5th Cir. 2009). "The appropriate inquiry [on summary judgment] is 'whether the evidence presents a sufficient disagreement to require submission to a jury or whether it is so one-sided that one party must prevail as a matter of law.'" *Septimus v. Univ. of Houston*, 399 F.3d 601, 609 (5th Cir. 2005) (quoting *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 251-52 (1986)).

STATUTORY FRAMEWORK

Plaintiffs seek to enjoin BP's operation of the Atlantis until BP corrects its lack of compliance with critical federal environmental and safety regulations. BP's current operation of Atlantis is unsafe and poses a substantial threat of long term or irreparable injury to the Gulf of Mexico ecosystem. Plaintiff Abbott also seeks to restore to the United States treasury the value of the federally owned oil and gas illegally obtained because of BP's false certifications of compliance with the regulations. Plaintiffs' claims arise under the OCSLA, 43 U.S.C. § 1349(a)(1), and the FCA, 31 U.S.C. § 3729(a)(1).

A. OCSLA

The United States owns the submerged lands that lie beyond the territorial sea and constitute the outer continental shelf. 43 U.S.C. §§ 1302, 1311, 1331(a); *Sec'y of the Interior v. California*, 464 U.S. 312, 315-16 (1984). Only Congress has the power to dispose of property belonging to the United States. U.S. CONST. art. IV, §3, cl. 2; *see Ashwander v. Tennessee Valley Authority*, 297 U.S. 288 (1936); *Royal Indemnity Co. v. U.S.*, 313 U.S. 289 (1941). MMS cannot dispose of federal oil and gas, by lease or otherwise, unless Congress has delegated the power to do so. *See Justheim v. McKay*, 229 F.2d 29 (D.C. Cir. 1956) (affirming decision that Congress did not authorize leases of submerged lands in the Mineral Leasing Act of 1920). The only authority the Department of the Interior has to dispose of property on the outer continental shelf was delegated to it by Congress in the OCSLA.

The OCSLA authorizes the Secretary of the Interior to grant oil and gas leases on the outer continental shelf to the "highest *responsible* qualified bidder by competitive bidding." 43 U.S.C. § 1337(a)(1) (emphasis added); *see Sec'y of the Interior v. California*, 464 U.S. at 315-16. A leaseholder pays a cash bonus as its bid for the lease and agrees to pay a fixed royalty rate of 12 ½ percent to the United States on any oil or gas produced from the lease area. 43 U.S.C. § 1337(a)(1)(A). Pursuant to OCSLA, the Secretary of the Interior may prescribe regulations necessary to prevent waste and conserve the natural resources of the outer continental shelf. *Id.* at § 1334(a). The issuance and continuance in effect of any lease is conditioned upon compliance with those regulations. *Id.* at § 1334(b). A lessee who fails to comply with OCSLA or its regulations may have his lease

forfeited and cancelled by an appropriate proceeding in any United States district court. *Id.* at § 1334(d).

Congress declared the outer continental shelf "a vital national resource reserve held by the Federal Government for the public, which should be made available for expeditious and orderly development, subject to environmental safeguards, in a manner which is consistent with the maintenance of competition and other national needs." *Id.* at § 1332(3). Congress also declared that "operations in the outer Continental Shelf should be conducted in a safe manner by well-trained personnel using technology, precautions, and techniques sufficient to prevent or minimize the likelihood of blowouts, loss of well control, fires, . . . or other occurrences which may cause damage to the environment or to property, or endanger life or health." *Id.* at § 1332(6).

A lessee does not gain an immediate or absolute right to explore for, develop, or produce oil or gas under its lease contract. Those activities require separate authorization through permit applications to the MMS. *See Sec'y of the Interior v. California*, 464 U.S. at 317; *Mobil Oil Exploration and Producing Southeast, Inc. v. United States*, 530 U.S. 604, 609-10, 620-21 (2000); *Abbott v. BP Exploration and Production, Inc.*, 781 F. Supp. 2d 453, 462-63 (S.D. Tex 2011). The permit and approval process is required because the mechanisms used to achieve production, and the structures and components that ensure safe removal of oil and gas, are necessary predicates to the production of oil and gas. *Mobil Oil*, 530 U.S. at 609; *Abbott*, 781 F. Supp. 2d at 462-63. Once the required permit applications are approved by the MMS, the lessee can take

possession of the government owned oil and gas. Before the permits are approved, a lessee cannot begin oil or gas production or take the government property. 30 C.F.R. §§ 250.281, 250.900(b)(2000) , 250.800(a); *Abbott*, 781 F. Supp. 2d at 464, 466. MMS, like all federal agencies, is bound by its regulations. *See Fort Stewart Schools v. Federal Labor Relations Auth.*, 495 U.S. 641, 654 (1990). MMS, therefore, cannot grant permits disposing of federal oil and gas where the lessee has not complied with OCSLA regulations.

OCSLA's citizen suit provision allows any person with a valid legal interest, which is or may be adversely affected, to bring an action on his own behalf to compel compliance with the statute or leases. 43 U.S.C. § 1349(a)(1). A citizen suit plaintiff may also request any appropriate relief under common law. *Id.* at § 1349(a)(6). OCSLA also includes criminal sanctions for knowingly and wilfully making false certifications in any permit application. *Id.* at § 1350(c).

B. The False Claims Act ("FCA")

1. Introduction

The *qui tam* provision of the FCA has been described by the Supreme Court as "one of the least expensive and most effective means of preventing frauds on the treasury . . . Prosecutions conducted by such means compare with the ordinary methods as the enterprising privateer does the slow-going public vessel." *Marcus v. Hess*, 317 U.S. 537, 541 n. 5 (1943). Justice Scalia, holding that a *qui tam* relator has Article III standing, relies on "original intent," namely the long tradition of *qui tam* actions in England and the American colonies. *Vermont Agency of Nat'l Res. v. United*

States ex rel. Stevens, 120 S. Ct. 1858, 1861-65 (2000); *see also Riley v. St. Luke's Episcopal Hospital*, 252 F.3d 749, 752 (5th Cir. 2001).

With this memorandum, Abbott establishes that (1) BP knowingly presented the MMS with a false or fraudulent claim for government payment or approval in violation of 31 U.S.C. § 3729(a)(1)(A); and (2) that BP knowingly made or used a false record or statement material to a false or fraudulent claim in violation of 31 U.S.C. § 3729(a)(1)(B). BP committed these FCA violations by making expressly false certifications and by submitting many false engineering documents with permit applications to obtain possession of government oil and gas in violation of 30 C.F.R. § 250.901(d) (2002) and 30 C.F.R. § 250.802(e)(5).

In *United States ex rel. Longhi v. Lithium Power Tech.*, 575 F.3d 458 (5th Cir. 2009), *cert. denied*, 130 S. Ct. 2092 (2010), the Fifth Circuit adopted a four-prong test for section 3729(a) claims. The Fifth Circuit requires that a plaintiff show: "(1) a false statement or fraudulent course of conduct; (2) made or carried out with the requisite scienter; (3) that was material; and (4) that caused the government to pay out money or to forfeit moneys." *Id.* at 467 (adopting the test stated in *United States ex rel. Wilson v. Kellogg Brown & Root, Inc.*, 525 F.3d 370, 376 (4th Cir. 2008)).

2. False Statement or Fraudulent Course of Conduct

The FCA broadly imposes liability on any person who submits a false or fraudulent claim to the government and defines a "claim" as "any request or demand, whether under a contract or otherwise, for money or property." 31 U.S.C. § 3729(b)(2).[3]

[3] Although the term "false or fraudulent" is not expressly defined in the FCA, Judge Miller has recognized that "[i]n the simplest terms a false claim is an assertion or statement that is untrue. So . . . the

To effectuate the FCA's remedial purpose, courts have properly construed the concept of a "claim" to encompass all attempts to obtain government money or property. *See United States v. Neifert-White Co.*, 390 U.S. 228, 223 (1968); *Longhi*, 513 F. Supp. 2d at 873-74. Permit applications seeking approvals to extract resources under a federal lease may be properly viewed as, "claim[s] . . . for . . . property" under the FCA. 31 U.S.C. § 3729(b)(2).

The permits at issue here are two out of the four that are specifically required to effectuate BP's right to extract oil and gas under its leases. The OCSLA regulations require that a lessee obtain the following "approvals or permits" before conducting exploration activities:

> (1) Approval of applications for permits to drill (APDs) (see § 250.410);
> (2) **Approval of production safety systems (see § 250.800);**
> **(3) Approval of new platforms and other structures (or major modifications to platforms and other structures) (see § 250.901);**
> (4) Approval of applications to install lease term pipelines (see § 250.1007); and
> (5) Other permits, as required by applicable law.

30 C.F.R. § 250.281 (emphasis added). The production safety system permit is the final permit; a lessee may commence production upon receiving it. *See* 30 C.F.R. § 250.800(a). Without the required approvals, BP could not obtain government oil and gas (*i.e.*, BP would have no production facilities).

"Where the government has conditioned payment of a claim upon a claimant's certification of compliance with, for example, a statute or regulation, a claimant submits a false or fraudulent claim when he or she falsely certifies compliance with that statute

---

question becomes whether the claims or statements are literally true." *United States ex rel. Longhi v. Lithium Power Tech.*, 513 F. Supp. 2d 866, 874 (S.D. Tex. 2007) (internal citations omitted).

or regulation." *United States ex rel. Thompson v. Columbia/HCA Healthcare Corp.*, 125 F.3d 899, 902 (5th Cir. 1997). In line with this principle, Judge Hoyt already recognized here that: "this understanding of a false claim comfortably encompasses misrepresentations in some permits that a lessee submits in seeking the right to drill for or develop oil on a federal OCS lease." *Abbott*, 781 F. Supp. 2d at 462.

In addition, Judge Hoyt held that "if BP made misrepresentations material to the approval of any such permit, then BP's actions violated its lease terms, rendering the leases false for FCA purposes," *id.* at 465, because "BP's rights under its leases to drill for and develop oil were expressly conditioned on it obtaining critical permits designed to ensure the safety and efficacy of any drilling and production activities," *id.* at 463 n.14; *see also United States ex rel. Augustine v. Century Health Services*, 289 F.3d 409, 415 (6th Cir. 2002) ("liability can attach if the claimant violates its continuing duty to comply with the regulations on which payment is conditioned").

3. Scienter

The FCA prohibits a person from "knowingly" presenting or making a false statement in connection with a claim seeking payments from the government. *See* 31 U.S.C. § 3729(a)(1)-(2). The FCA defines "knowingly" to mean that a person, with respect to information (1) has actual knowledge of the information; (2) acts in deliberate ignorance of the truth or falsity of the information; or (3) acts in reckless disregard of the truth or falsity of the information. 31 U.S.C. § 3729(b)(1). Although proof of specific intent to defraud is not necessary, the FCA requires proof of a culpable mental state that exceeds mere negligence or gross neglect. *See Longhi*, 575 F.3d at 468 (quoting *United States ex rel. Farmer v. City of Houston*, 523 F.3d 333, 338 (5th Cir. 2008)).

The definition of "knowingly" is intentionally broad "to capture the 'ostrich-like' conduct which can occur in large corporations where 'corporate officers . . . insulate themselves from knowledge of false claims submitted by lower-level subordinates.'" *United States v. Science Applications Intern. Corp.*, 626 F.3d 1257, 1274-75 (D.C. Cir. 2010) (quoting S. Rep. No. 99-345, at 7, 20-21 (which noted that 1986 FCA amendments lowered the scienter threshold to impose "some duty to make a limited inquiry so as to be reasonably certain they are entitled to the money they seek")). The failure to make a minimal examination of records that support a claim constitutes deliberate ignorance or reckless disregard. *See UMC Elecs. Co. v. United States*, 43 Fed. Cl. 776, 794 (Fed. Cl. 1999). Moreover, when a contract or regulations impose a specific requirement and that requirement is not satisfied, an FCA defendant acts in reckless disregard of the truth by representing that he complied with the contract or regulations. *See United States ex rel. Compton v. Midwest Specialties, Inc.*, 142 F.3d 296, 304 (6th Cir. 1998).

4. Materiality

A false or fraudulent claim or statement violates the FCA only if it is material. *Longhi*, 575 F.3d at 467 (*citing Thompso*n, 125 F.3d at 899). The Fifth Circuit applies the "natural tendency" test to determine materiality, which

> requires only that the false or fraudulent statements either (1) make the government prone to a particular impression, thereby producing some sort of effect, or (2) have the ability to effect the government's actions, even if this is a result of indirect or intangible actions on the part of the Defendants. **All that is required under the test for materiality, therefore, is that the false or fraudulent statements have the potential to influence the government's decisions.**

Longhi, 575 F.3d at 470 (emphasis added); *see also Abbott*, 781 F. Supp. 2d at 466-67. Here, Judge Hoyt already applied this test and concluded that "[u]nless and until the

permit process was satisfied, BP did not have the lawful right to drill for, or extract, any oil or gas . . . Accordingly, false statements made during that process could certainly have had a natural tendency to affect the government's decision to allow BP to explore and develop the leases." *Abbott*, 781 F. Supp. 2d at 466.

5. Payment of Claim

BP submitted false applications for two permits. Without those permits, BP could not produce oil and gas under its leases. MMS granted the permits – allowing BP to take possession of all the minerals, except helium, that was under the sea.

ATLANTIS LEASE TERMS

The Atlantis field (Green Canyon Block 743 Unit) is the third largest oil field in the Gulf of Mexico. It covers a five-block area currently held by unit agreement contract number 754305003, approved April 2005.[4] The Atlantis field is located at Green Canyon blocks 699, 700, 742, 743, and 744 in United States federal waters in the Gulf of Mexico approximately 190 miles from the coast of Louisiana in water depths ranging from 4400 to 7100 feet.[5]

BP acquired the Atlantis field through leases obtained from the Secretary of the Interior pursuant to authority granted by Congress.[6] BP Exploration & Oil Inc. and BHP Billiton hold working interests in the five leases under a joint operating agreement (BHP owns 44.0%, and BP E&P owns 56.0%).[7] BP is the designated operator of the

[4] *See* Atlantis Field Supplemental Conservation Information Document (March 2009) at 4 [BPEP_ABB_01597639 at BPEP_ABB_01597642] (Attach. A, Ex. 1).
[5] *Id.*; Atlantis Project – Application to Design, Fabricate and Install a Platform (Sept. 2002) ("Platform Application") at 2 [BPEP_ABB_00086577 at BPEP_ABB_00086583] (Attach. A, Ex. 2).
[6] *See* 43 U.S.C. § 1344.
[7] Platform Application at 2 [BPEP_ABB_00086583] (Attach. A, Ex. 2); *see, e.g.*, Lease OCS-G 15606 [FWW0008511] (Attach. A, Ex. 3).

Atlantis project.[8] In each of the five unitized leases, BP paid a cash bonus (*i.e.*, $435,775.00 for Block 742) and agreed to pay a royalty rate of 12 ½ percent to the United States.[9] Under the leases, the lessee pays a fixed royalty "in amount or value of production saved, removed or sold from the leased area."[10]

Each of the unitized leases grants BP the "exclusive right and privilege to drill for, develop, and produce oil and gas resources, except helium gas, in the submerged lands of the Outer Continental Shelf containing approximately 5760.00 acres . . . ."[11] The leases were issued subject to the OCSLA and "all regulations issued pursuant to the Act."[12] The lessee's rights include: "the right to construct or erect and maintain within the leased area artificial islands, installations, and other devices permanently or temporarily attached to the seabed and other works and structures necessary to the full enjoyment of the lease, subject to compliance with applicable laws and regulations."[13] The leases state that, "The Lessee shall comply with all regulations and Orders."[14]

FACTUAL BACKGROUND

A. ABBOTT IS THE ORIGINAL SOURCE.

1. Introduction

Abbott is prototypical of the qualified FCA relator praised by the U.S. Supreme Court. He is "an original source with antecedent, direct, and independent knowledge of the facts, who has volunteered the information to the government." *Little v. Shell*

[8] Platform Application at 2 [BPEP_ABB_00086583] (Attach. A, Ex. 2); Dep. of B. Domangue (MMS) at 24:14-22 (Attach. A, Ex. 4).
[9] Lease OCS-G 15606 [FWW0008511] (Attach. A, Ex. 3).
[10] *Id.* at Sec. 6(a). Royalty on Production [FWW0008512].
[11] *Id.* at Sec. 2. Right of Lessee [FWW0008511].
[12] *Id.* at Sec. 1. Statutes and Regulations [FWW0008511].
[13] *Id.* at Sec. 2(c) [FWW0008512].
[14] *Id.* at Sec. 10. Performance [FWW0008512].

Exploration & Production Co., 2011 WL 1370565, *5 (S.D. Tex. Apr. 8, 2011).[15] Abbott was employed through a third-party employment company at Atlantis's administrative offices in Houston, Texas, during which time he served as the Project Services Leader for the subsea portion of the project.[16] During his employment, Abbott obtained direct knowledge of the incomplete engineering documents. After BP fired him, Abbott reported first to BP's internal ombudsman (former federal Judge Stanley Sporkin), then to the Department of Interior Inspector General, then provided substantially all of his information to the Attorney General of the United States and the United States Attorney for the Southern District of Texas, before filing suit.[17]

2. Abbott's Direct and Independent Knowledge of BP's Fraud

Abbott alleged in great detail the factual basis for his personal knowledge that: (1) proper design and "as-built" documents required by regulation were never completed; (2) BP violated its own engineering document development procedures; (3) BP Atlantis management was fully aware of the unsafe conditions thus created; and (4) BP Atlantis management, nevertheless, failed to remedy the deficiencies.[18] BP's fraudulent scheme extended to the engineering documentation for all parts of the

---

[15] *See also* 31 U.S.C. § 3730(e)(4)(B); *United States ex rel. Reagan v. E. Tex. Ctr. Reg'l Healthcare Sys.*, 384 F.3d 168, 177 (5th Cir. 2004). The "direct and independent" standard does not require the relator to have direct and independent knowledge of each false claim alleged. *Reagan*, 384 F.3d at 177. The relator "is simply required to possess direct and independent knowledge of the 'information on which the publicly disclosed allegations are based.'" *Id.*.

[16] *See* Swift Technical Services LLC–Contract for Services [BPEP_ABB_00094892] (Attach. A, Ex. 5); BP Organization Chart Showing Abbott's Position [BPEP_ABB_03455080] (Attach. A, Ex. 6).

[17] Abbott provided the statutorily required government disclosure on April 9, 2009, and Abbott served a copy of his sealed complaint on the Attorney General on April 24, 2009. *See* Attach. B, Decl. of David L. Perry; April 24, 2009 Letter to Attorney General Eric Holder [AB0015861 to AB0015894] (Attach. A, Ex. 7).

[18] *See* Plaintiffs' Amended Complaint and Request for Injunctive Relief (Doc. 47); *see also Abbott*, 781 F. Supp. 2d at 467 (holding that Abbott has pled fraud with sufficient particularity). A relator need not plead the specific details of the false claims (*i.e.*, the who, what, when, where, and how). *United States ex rel. Grubbs v. Kanneganti*, 565 F.3d 180, 190 (5th Cir. 2009). Instead, a relator properly can assert a FCA claim by alleging the details of a scheme to submit false claims. *Id.*

Atlantis–the hull and floating structure, its topsides structure, subsea, and the production safety system.[19]

Abbott has worked in the field of project management for over 30 years.[20] He is not an engineer, but he manages engineering document control systems, database records, financial records, and other types of management records. He also provides management support for engineers by establishing project schedules and budgets and auditing their performance. While he worked at the BP Atlantis offices, he was responsible for records management, including engineering documentation. In this position, he learned directly through emails, conversations, meetings with engineers, and his own review of BP documents that mechanical drawings, electrical drawings, controls systems designs, structural drawings, and piping & instrument drawings ("P&IDs") were not approved by engineers and that only 5% of the drawings were issued "as-built."[21] Abbott testified that,

> the document control log is the bible for an engineering company. It shows the status of the drawings. If those drawings have not been issued, it says that. And when I came in 90 - - 90 percent were not approved for construction by BP engineers . . . only 5 percent were issued as-built, and that's a fact.[22]

Abbott was not involved in BP's regulatory filings for Atlantis, but he was aware that platforms have to be certified to MMS, and he knew that the drawings that formed

[19] Abbott's specific knowledge included the production safety system. *See* Dep. of K. Abbott at 17:5-9; 66:1-7; 306:2-15 (Attach. A, Ex. 8); *see also* Decl. of M. Sawyer at § III.C.2 (Doc. 47-2 at 12) (discussing incomplete and unapproved safety shutdown logic drawings).
[20] *See* Decl. of K. Abbott at ¶ 1 (Doc. 47-1).
[21] *Id*. at ¶¶ 7-15; Dep. of K. Abbott at 37:10-39:24; 49:14-50:10; 82:5-19; 87:20-25; 104:17-105:8; 141:19-142:19; 301:6-302:7 (Attach. A, Ex. 8).
[22] Dep. of K. Abbott at 37:22-38:4 (Attach. A, Ex. 8).

the basis of the certifications were not available.[23] He also knew that Atlantis operations needed and was requesting a complete package of "as-built" drawings, and he knew that incomplete engineering results in dangerous facilities.[24] This direct and independent knowledge forms the basis for Abbott's *qui tam* allegations that BP committed fraud on the government.

3. Abbott's Claims Are Not Barred By the FCA Public Disclosure Bar.

Abbott's complaint "exposed a previously-uncovered fraud being perpetrated on the Government . . . [and] is not a parasitic suit by an opportunistic late-comer." *Grubbs*, 565 F.3d at 195. BP argues that Abbott's *qui tam* claims are barred because Abbott did not have direct and independent knowledge of any certifications actually made by BP and amended his complaint to add allegations regarding the permit applications after receiving Freedom of Information Act ("FOIA") responses. As Judge Rakoff sitting for the District Court for the Southern District of New York recently held, the fact that Abbott later received responses to FOIA requests, now deemed reports for the public disclosure rule, does not change the fact that he first obtained direct, first hand knowledge of the fraud. *United States of America, The State of New York ex rel. Assoc. Against Outlier Fraud v. Huron Consulting Group*, 2012 WL 506824, *6 (S.D.N.Y. Feb. 16, 2012). Judge Rakoff found that, "it would be wholly contrary to the purposes of both Rule 9(b) and the [FCA] to require relators with direct (though perhaps not complete) knowledge of the fraud to file their complaints *before* seeking corroboration through FOIA requests." *Id.* (emphasis in original).

[23] *Id*. at 17:10-14; 270:5-15.
[24] *Id*. at 38:14-24; 56:9-57:20; 59:17-60:4; 216:9-17; 62:20-63:4; 143:2-10.

Abbott filed his original complaint on April 21, 2009, alleging FCA violations based on his detailed knowledge of BP's lack of engineer-approved and "as-built" drawings for Atlantis. Doc. 1 at 25-56, 67. At that time, no public disclosure of BP's production safety system permit application or the subsequent MMS approval had occurred. On September 10, 2010, Abbott amended his complaint to add reference to information received from FOIA responses to reveal an "additional compelling fact" about claims previously alleged based on his original information. Doc. 47 at ¶¶ 4.5-4.7 and 5.2(d); *see also Reagan*, 384 F.3d at 179 (a relator may be considered an "original source" where the relator's investigation into public documents reveals an "additional compelling fact"). The reference to the Atlantis production safety system permit application and subsequent MMS permit approval supported Abbott's allegations regarding 30 C.F.R. § 250.905(j), which was previously raised in Abbott's original complaint. *Compare* Doc. 1 at ¶ 58 and Doc. 47 at ¶¶5.2(c) & (d). Thus, despite reference to publicly disclosed information, Abbott's original source knowledge of BP's fraudulent scheme regarding its engineering documentation, as established by his original complaint, is the true basis of the allegations.

Further, Abbott alleges FCA violations under both 31 U.S.C. § 3729(a)(1) and § 3729(a)(2), and § 3729(a)(2) does not require proof of presentment. *Grubbs*, 565 F.3d at 193 (*citing Allison Engine. Co. v. United States ex rel. Sanders*, 553 U.S. 662, 671 (2008)).

Finally, the D.C. Circuit has addressed head-on BP's arguments that Abbott is not an "original source" because he was not directly involved in the permitting process, stating, "[r]are indeed would be the case in which relators could gain 'original source'

status, if such were the standard, because the misrepresented states of affairs, *e.g.* X, would almost always have been disclosed to the government independently by the alleged defrauder." *Springfield Terminal Ry. v. Quinn*, 14 F.3d 645, 657 (D.C. Cir. 1994).

B. SAFETY CONCERNS

On August 15, 2008, about 10 months after Atlantis first oil, Barry Duff, Abbott's predecessor in the same position, sent an email to Atlantis project services manager Bill Naseman and Atlantis subsea delivery manager William Broman stating that project services was asked by the operations document control person to provide all subsea piping & instrument drawings ("P&IDs") regardless of their status.[25] Duff stated in his email that, "[t]he P&IDs for Subsea are not complete have have [sic] not been approved or handed over to Operations." *Id.* He stated that:

> The risk in turning over drawings that are not complete are:
>
> 1) The Operator will assume the drawings are accurate and up to date. This could lead to catastrophic Operator errors due to their assuming the drawing is correct. Turning over incomplete drawings to the Operator for their use is a fundamental violation of basic Document Control, the IM Standard and Process Safety Regulations.
>
> 2) Having the project document control person turnover drawings that are not complete, places the onus on her that they are the most current version. Currently, there are **hundreds if not thousands** of Subsea documents that have never been finalized, yet the facilities have been turned over. In some cases, Tinikka [Curtis] does not have all the versions. Turning over the version she has, runs the risk of the wrong version being used.
>
> The point here is that even if we condoned handing over documents that were not approved/handed over, we run the risk of not handing over the most current version, (the one theoretically closest to being the most accurate).

[25] Aug. 15, 2008 Email from B. Duff to B. Naseman and W. Broman [BPEP_ABB_01524673] (Attach. A, Ex. 9).

> To re-iterate, it is fundamentally wrong to turn over documents to Operations (for Operations use and purposes), before they have been formally finalized and Handed Over to Operations.[26]

When asked about these statements at his deposition, "Q. Is all of that correct?," Duff responded, "A. In my mind."[27]

C. ATTEMPTS AT RESOLUTION

BP conducted several meetings regarding how to solve the problems identified, but no decision on the solution was reached.[28] When Abbott came on board to replace Duff in August 2008, he made the decision to move forward with getting the document register and the spreadsheets that Duff created to the engineering leads to finalize the engineering on the incomplete drawings.[29] Abbott's proposed course of action was required by law and by the Atlantis Records Management Project Execution Plan ("PEP") among other BP procedures.

The PEP required that projects records management check engineering technical documents before transmitting them into BP's electronic database.[30] In checking the documents, records management was to assure that: (1) the documents were signed and approved original drawings; and (2) the current revision number, date, and reason for revision were on the original documents. The PEP required that, "if any information is

---

[26] *Id.* (emphasis in original).
[27] Dep. of B. Duff (BP) at 90:2-15 (Attach. A, Ex. 10).
[28] *Id.* at 72:11-75:10; *see* Aug. 15, 2008 Email from B. Duff to A. Gregg and B. Naseman [BPEP_ABB_01524667 to BPEP_ABB_01524668] (Attach. A, Ex. 11).
[29] Dep. of T. Curtis (BP) at 72:8-73:12; 92:19-93:2 (Attach. A, Ex. 12); *see* Nov. 24, 2008 Email from W. Broman [BPEP_ABB_01521407 to BPEP_ABB_01521409] (Attach. A, Ex. 13).
[30] Atlantis Records Management Project Execution Plan, Document number 1440-10-AD-PR-0005 at p. 4 (Section 4.1) [MUSTANG ENG 000205 at MUSTANG ENG 000210] (Attach. A, Ex. 14); *see also* Dep. of B. Naseman (BP) at 26:17-28:4; 45:17-46:2; 184:14-18 (Atlantis Project Services Manager testifying that it was his team's responsibility to ensure that BP personnel and contractors followed document control procedures and guidelines) (Attach. A, Ex. 15).

missing or incorrect, the project records management team will return the engineering technical document to the discipline leads to fix." Abbott was attempting to return to the engineering leads a large body of incomplete engineering documents. The documents were incomplete because the engineering had not been finished as required by law. About half of the engineering leads responded to the requests, slowly providing feedback, and the other half did nothing.[31]

D. ABBOTT'S EFFORTS AFTER TERMINATION

Abbott informed BP, through its Ombudsman Program, and the Inspector General of the Department of the Interior of these facts before seeking counsel. Abbott then complied with the provisions of 31 U.S.C. § 3730(b)(2) by providing a written disclosure of substantially all material evidence and information he possessed to the Attorney General of the United States and to the United States Attorney for the Southern District of Texas.

On August 25, 2009, the BP's Office of the Ombudsman[32] issued a confidential report substantiating Abbott's concerns. The report states

> The CI[33] asserted to the Office of the Ombudsman that the drawings and documentation for the Atlantis platform were not current, not available on the platform, and that the failure to have them available was a violation of the Subsea Project Execution Plan and various federal legal requirements. He stated that he had advised his management and coworkers of this issue during a contentious meeting in December, 2008. Indeed, the Project Execution Plan, Rev. 3 states, on page 49, Section 6.2 :
>
> *The BP Lead Engineer for each discipline area will ensure that all technical documentation is updated to reflect the as-built condition*

[31] Dep. of T. Curtis (BP) at 93:19-95:18 (Attach. A, Ex. 12).
[32] The BP Ombudsman currently is the Honorable Stanley Sporkin (retired), former District Judge for the United States District Court for the District of Columbia.
[33] "CI" (Confidential Informant) in the report refers to Abbott.

of the equipment prior to deployment to the field (Exhibit 3)

The CI states, and other witnesses confirm, that the state of documentation for the Atlantis project was a concern for the Atlantis Subsea Team as far back as the fall of 2007 and into 2008. In other words, the issue had been recognized and was the subject of a project even before the CI came to work on the Atlantis project in September, 2008.

An effort was undertaken in December, 2008 to upgrade the attention and expected deliverables from the various engineering departments to organize the documentation to be accessible and retrievable to the platform, working out a new and user-friendly document numbering and management system. These issues were the subject of a continual series of meetings, including one in December, 2008 during which the CI became quite agitated about the issue and his perception that there was a failure to recognize the seriousness of the issue by various engineers and their departments. Witnesses who attended this meeting confirmed that the CI raised the issue with a lot of passion and concern. There is also agreement that there were varying degrees of acceptance and resistance around the table, with some engineers becoming quite annoyed with the CI and other agreeing with him. **Project supervisors generally agreed with the CI** that the issue was lagging behind schedule and that there needed to be better cooperation by the engineers and commitment to meet the project schedule.[34]

The Ombudsman's Report concluded:

4) Whether there was a violation of regulatory or project requirements with respect to the issue of current P&ID documentation.

The original Project Execution Plan called for all the documents to be accurate, complete and transferred to the Platform when it went operational. That did not happen, and there were no MOC documents that considered the risk presented to the project for the failure to meet that expectation at the time of the investigation.[35]

[34] BP Ombudsman Employee Concerns Program, Confidential Investigation Report, Case No: 2009-005 [BPEP_ABB_03463083 at BPEP_ABB_03463088] (emphasis added) (Attach. A, Ex. 16).
[35] *Id.* at BPEP_ABB_03453108 (emphasis added).

The Office of the Ombudsman recommended that BP, "[o]btain Global S&O review on the BP Atlantis P&ID issues facing the project to ensure it meets BP project expectations and all regulatory requirements."[36]

E. MMS INVESTIGATION

On February 24, 2010, United States Representative Raul M. Grijalva and eighteen other members of Congress wrote to then-MMS Director S. Elizabeth Birnbaum urging her to direct

> a full investigation of whether British Petroleum had a complete and accurate set of required engineering drawings for the BP Atlantis platform and its associated subsea components prior to the start of production from that platform, and to report back to Congress on the results of that investigation as soon as possible.[37]

On March 26, 2010, MMS Director Birnbaum responded to the February 24, 2010 Congressional letter, stating that MMS "will conduct a full investigation of this situation" and will complete its report by the end of May 2010.[38]

On July 21, 2010, MMS sent a letter to BP requesting "production of the engineering documents that MMS regulations required BP to maintain."[39] In August 2010, BP responded to the agency's request and submitted certain documents and drawings.[40] The materials that BP submitted to MMS for the investigation substantiate plaintiffs' claims that (1) registered professional engineers have not certified the Atlantis

---

[36] *Id.* at BPEP_ABB_03463109.
[37] Feb. 24, 2010 Letter from Rep. Grijalva (U.S. Congress) to E. Birnbaum (MMS) [BPEP_ABB_00115572 to BPEP_ABB_00115574] (Attach. A, Ex. 17).
[38] March 26, 2010 Letter from E. Birnbaum (MMS) to Rep. Grijalva (U.S. Congress) [BPEP_ABB_00115575] (Attach. A, Ex. 18).
[39] July 21, 2010 Letter from M. Saucier (MMS) to S. Todd (BP) [BPEP_ABB_00082829 to BPEP_ABB_00082830] (Attach. A, Ex. 19).
[40] Aug. 9, 2010 Letter from S. Todd (BP) to M. Saucier (MMS) [BPEP_ABB_00115564 to BPEP_ABB_00115566] (Attach. A, Ex. 20).

platform detailed structural plans and specifications; (2) BP has not developed "as-built" plans and specifications; and (3) registered professional engineers did not approve the designs for the mechanical and electrical systems installed.[41]

ARGUMENT

A. BP'S ATLANTIS PLATFORM PERMIT APPLICATION WAS A FALSE CLAIM FOR GOVERNMENT PROPERTY.[42]

1. Introduction

A lessee submitting an application to install a platform on the outer continental shelf must certify to the government that the design of the structure was certified by a registered professional engineer and that a complete set of the certified design and "as-built" plans and specifications are being maintained at a designated location. The applicable regulation states:

> The lessee shall have **detailed structural plans** as called for in paragraph (b)(1)(iii) of this section and specifications for new platforms or other structures and major modifications **certified** by a registered professional structural engineer or civil engineer specializing in structural design. **The lessee shall also sign, date, and submit the following certification: Lessee certifies that the design of the structure/modification has been certified by a registered professional structural or a civil engineer specializing in structural design, and the structure/modification will be**

[41] The agency's eventual report to Congress on its investigatory findings focused on whether the subpart I platform regulations apply to the subsea portion of the production facility and whether the subpart H production safety system regulations expressly require "as-built" drawings. For the purposes of this motion, plaintiffs assume that the agency's interpretation of the OCSLA regulations is correct. This memorandum analyzes only those drawings that BP submitted to the agency for the investigation; there is no factual dispute that those drawings are covered by the subpart I and subpart H requirements. Plaintiffs do not attempt herein to extend the subpart I platform certification to the subsea; nor do plaintiffs argue that the subpart H regulations expressly require "as-built" drawings. Accordingly, Judge Hoyt's denial of Plaintiffs' Motion for Partial Summary Judgment (Doc. 108) has no effect on the arguments currently before the Court.

[42] BP contends that the OCSLA regulations in place in 2002 apply to Atlantis. *See* Dep. of D. Sustala, Sept. 19, 2011 (BP) at 44:5-17 (Attach. A, Ex. 21); BP's Response to Partial MSJ, Doc. 147 at 20 ("Here, MMS approved the design of the Atlantis Platform in December 2002, long before the agency finalized its 2005 rulemaking . . . Thus, the 2002 version of the Regulations applies"). For the purposes of this Motion, plaintiffs analyze the case using the 2002 version of the platform certification; the certification currently is located at 30 C.F.R. § 250.905(k).

> **fabricated, installed, and maintained as described in the application and any approved modification thereto. Certified design and as built plans and specifications will be on file at-----.**[43]

The platform certification is a prerequisite to obtaining a permit to install the platform, which is a structure necessary for oil and gas production.[44] BP submitted the false certification with its platform application in September 2002; MMS approved the platform installation on January 16, 2007. BP's certification was untrue when it was made, and BP made the certification with the requisite scienter. The platform permit Application was a false claim for government property, and BP's false statements were material to the permit approval. A specific timeline of pertinent events follows:

September 2002 Platform Application

In September 2002, BP submitted its Atlantis Application to Design, Fabricate and Install a Platform. The application included BP's platform certification.[45]

December 2002 MMS Approval

On December 12, 2002, pursuant to 30 C.F.R. § 250.900(b) and (c) (2002), MMS approved the "Design, Fabrication, and Installation Verification Plans for Platform A (Atlantis)" and BP's nomination of ABS, Americas as the Certified Verification Agent ("CVA").[46]

GVA Departure Request

---

[43] 30 C.F.R. § 250.901(d) (2002) (emphasis added).

[44] "Applications submitted pursuant to §250.901 shall require the approval by the Regional Supervisor prior to platform installation." 30 C.F.R. § 250.900(b)(2002). **"§ 250.901 Application for approval.** (a) All applications under the provisions of this subpart shall be submitted to the Regional Supervisor for approval." 30 C.F.R. § 250.901 (2002) (emphasis in original).

[45] Sept. 2002 Application to Design, Fabricate and Install a Platform at 9 [BPEP_ABB_00086577 at BPEP_ABB_00086590] (Attach. A, Ex. 2); *see* Dep. of D. Sustala, Sept. 19., 2011 (BP) at 64:7-20 (Attach. A, Ex. 21).

[46] Dec. 12, 2002 Letter from T. Laurendine for D. Howard, MMS, to D. Sustala, BP [BPEP_ABB_00086984] (Attach. A, Ex. 22).

On January 27, 2003, BP submitted to MMS a request for a "departure from 30 CFR 250.901(d) requiring certification by a registered professional engineer for the design work performed in Sweden by GVA Consultants AB, (GVA-C), for Platform A," where GVA-C was "the engineering firm chosen to design the Atlantis semi-submersible platform hull."[47] BP requested that "GVA-C, as a foreign engineering firm, be exempted from jurisdictional-specific engineering licensing/registration and related design certification requirements." On February 25, 2003, MMS issued a letter to BP approving the departure "from 30 CFR 250.901(d) requiring certification by a registered professional structural engineer for the design work performed in Sweden by GVA Consultants AB, (GVA-C), for Platform A (Atlantis)."[48]

Notably, no such departure request was made for Daewoo Shipbuilding and Marine Engineering ("DSME"), the Korean ship-building firm that actually provided the detailed structural plans for the hull.[49] In fact, BP specifically and deliberately chose not to submit a departure request for DSME.

Platform Installation

On November 16, 2005, MMS sent an email to BP stating that MMS was in receipt of "the recommendation from ABS as the [CVA] for the Atlantis project to proceed with the installation of the PQ platform. . ."[50] MMS "accept[ed] BP's proposed installation plan of the PQ 'Atlantis' platform in the proposed method." *Id.* By letter dated January

[47] Jan. 27, 2003 Letter from D. Sustala, BP, to D. Howard, MMS [BPEP_ABB_00086986 thru BPEP_ABB_0008689] (Attach. A, Ex. 23).
[48] Feb. 25, 2003 Letter from T. Laurendine for D. Howard, MMS, to D. Sustala, BP [BPEP_ABB_00087025] (Attach. A, Ex. 24).
[49] DSME Contract dated Sept. 1, 2001, § 1.3 "Engineering and Design" [BPEP_ABB_04076454 at BPEP_ABB_04076462] (emphasis added) (Attach. A, Ex. 25).
[50] Nov. 16, 2005 Email from T. Laurendine, MMS, to D. Sustala, BP [BPEP_ABB_00087049 to BPEP_ABB_00087050] (Attach. A, Ex. 26).

16, 2007, MMS approved the installation of the Atlantis platform.[51] BP's regulatory coordinator, Dennis Sustala, testified that the January 2007 Letter is the final approval of the platform installation.[52]

2. The Atlantis Detailed Structural Plans and Specifications Were Not Certified by Registered Professional Engineers.

a. No Factual Dispute Exists Regarding Which Drawings Are Covered By BP's Platform Certification.

BP submitted to MMS the Atlantis platform drawings that supposedly were certified by a registered professional engineer per BP's September 2002 platform certification. On August 9, 2010, Simon Todd, VP Thunder Horse (BP), sent a letter to MMS responding to the agency's request for

> 1. A copy (11" x 17") of the "as-built" drawings as required by 30 CFR 250.903(a)(1). These "as-built" drawings should be a complete set of structural drawings as outlined in 250.905(d) and include a certification statement as outlined in 30 CFR 250.905(k). "As-built" structural drawings should include cathodic protection systems; jacket design; pile foundations; drilling, production, and pipeline/flowline risers and riser tensioning systems; turret and turret and hull interfaces; mooring and tethering systems; and foundations and anchoring systems as applicable. Each drawing should include the revision history from each phase of the project from design, fabrication, and installation through its current revision.[53]

Todd's letter enclosed engineering drawings, stating "Books 1-6 contain BP's response to [MMS's] request (No. 1) for copies of structural drawings referenced in 30 C.F.R. §

[51] Jan. 16, 2007 Letter from A. Shah for Lars T. Herbst, MMS, to D. Sustala, BP [BPEP_ABB_00087685] (Attach. A, Ex. 27).
[52] Dep. of D. Sustala, May 10, 2011 (BP) at 8:22-23; 40:15-42:5 (Attach. A, Ex. 28); *see also* BP's Response to Partial MSJ, Doc. 147 at 8 ("MMS and the United States Coast Guard gave BP the approval to install the Atlantis Platform in 2005.").
[53] July 21, 2010 Letter from M. Saucier (MMS) to S. Todd (BP) [BPEP_ABB_00082829 to 00082830]. In its letter, the agency referred to the renumbered 2005 Subpart I platform regulations. (Attach. A, Ex. 19).

250.903 and § 250.905."[54] The letter also included the required platform certification statement found currently at 30 C.F.R. § 250.905(k). Todd explained, "Because the Atlantis platform is comprised of several different major components, in making the foregoing certification statement BP relies on the work of multiple engineers, rather than any single engineer." *Id.* Accordingly, there can be no dispute that drawings included with Todd's August 2010 Letter are the detailed engineering drawings covered by BP's 2002 platform certification statement.[55]

Of the 1154 drawings for the hull and floating structure of the platform, only 8 (0.7%) are certified with a registered professional engineer's seal or covered under the GVA departure.[56] BP's platform certification statement submitted on September 2002 was false (untrue) when made; it was false at first oil in October 2007; and it continues to be false to this day. The design of the structure of the Atlantis platform has not been certified by registered professional engineers, and there is no certified design of the platform on file at BP's Houston Office.

b. The Atlantis Hull Was Designed by a Korean Shipbuilding Firm That BP Knew Could Not Certify Engineering Drawings As Registered Professional Engineers.

DSME, a Korean shipbuilding firm, which BP admits could not certify drawings with a professional engineering stamp[57] as required by OCSLA regulations, prepared 1013 of the 1154 design drawings for the hull, floating, and mooring system that BP

[54] Aug. 9, 2010 Letter from S. Todd (BP) to M. Saucier (MMS) [BPEP_ABB_00115564 to BPEP_ABB_00115566] (Attach. A, Ex. 20).
[55] *See also* BP's Response to Partial MSJ, Doc. 147 at 8 ("The Atlantis Platform consists of the *topsides* (the deck, piping, hydrocarbon processing facilities, export lines, control room, living quarters, etc.), *hull* (which allows the platform to float), *moorings* (which keep the platform at its location), and *pilings* (which anchor the moorings).").
[56] Decl. Mike Sawyer, Dec. 28, 2011 at ¶ 9 (Attach. C).
[57] Dep. of D. Sustala, Sept. 19, 2011 (BP) at 85:4-19; 91:19-92:9; 104:14-105:3; 145:8-13 (Attach. A, Ex. 21).

submitted with Todd's Books 1-6.[58] Sustala testified that he never told MMS that the vast majority (approximately 95%) of engineering drawings for the load bearing structure of the floating platform were prepared by DSME.[59] Although the initial basic hull design work was performed by GVA under the exemption that BP sought for the work performed in Sweden, the detailed design required to be certified was performed by DSME and not covered by any exemption.[60]

BP documents state that DSME performed the detailed design work for the Atlantis hull. The contract with DSME states:

> 1.3 Engineering and Design
> Contractor **shall perform detailed engineering and design** of the complete Semisubmersible floating platform facility; excluding process facilities modules, systems, and equipment explicitly stated within this Exhibit "A" as being supplied by others. Major Items in Contractor's detailed engineering and design scope include:
> **- the Semisubmersible hull and deck structure with associated access platforms, helideck and appurtenances;**
> **- mechanical, electrical and controls equipment and systems within the hull and deck structure**;[61]

In addition, the Atlantis Project Floating Systems Team Project Execution Plan states:

> Daewoo Shipbuilding and Marine Engineering (DSME) will perform the **detail engineering design**, fabrication engineering, fabrication and commissioning of the Atlantis PQ hull at their facility in Okpo, South Korea.[62]

It also describes DSME's scope of work:

> 9.4.1 Scope of Work

[58] Decl. Mike Sawyer, Sept. 28, 2011 at ¶ 9 (Attach. C).
[59] Dep. of D. Sustala, Sept. 19, 2011 (BP) at 139:7-140:13. (Attach. A, Ex. 21).
[60] Dep. of K. Dejohn (BP) at 67:20-68:15 (Attach. A, Ex. 29); Dep. of S. Todd, Dec. 5, 2011 (BP) at 294:13-17 (Attach. A, Ex. 30).
[61] DSME Contract dated Sept. 1, 2001, Sect. 1.3 "Engineering and Design" [BPEP_ABB_04076454 at 04076462] (emphasis added) (Attach. A, Ex. 25).
[62] Atlantis Project Floating Systems Team Project Execution Plan, Disc. Ex. 262 [BPEP_ABB_00111486 at BPEP_ABB_00111493] (emphasis added) (Attach. A, Ex 31).

> DSME will be responsible for verifying and refining the Basic Design deliverables **to produce all detailed engineering deliverables** required to support the fabrication, commissioning and transportation of the Atlantis Hull. The main elements of DSME's scope for detail engineering include the following:
> - Detailing of Basic Design information. . .
> - Weight Control
> - Obtain classification and regulatory approval of the design drawings and calculations.[63]

BP was aware that DSME personnel were not registered professional engineers and could not stamp the drawings as such.[64] BP knew that the modification of the platform certification statement for GVA did not cover DSME work.[65] BP determined not to seek a waiver for DSME's work.[66] BP also determined not to inform MMS of its decision because BP's verification agent (ABS), who was aware of the issue, agreed that only the GVA hull drawings would be submitted to MMS with the platform verification under 30 C.F.R. § 250.902 (2002).[67] According to BP's plan, DSME would produce the detailed structural plans for the hull, but MMS would never see those drawings or learn that the drawings were not certified with a registered professional engineer's seal.

BP knew prior to submitting its September 2002 platform application with the 30 C.F.R. § 250.901(d) certification that DSME could not certify its structural drawings for the hull. Then, on November 26, 2002, BP asked ABS if its design verification process "cover[ed BP's] obligation to certify plans and specifications found in 250.901," and ABS answered "no . . . [w]e do not sign 'off' on the design, that is the designers [sic]

---

[63] *Id.* at BPEP_ABB_0011525 (emphasis added).
[64] Dep. of D. Sustala, Sept. 19, 2011 (BP) at 145:8-13 (Attach. A, Ex. 21); Dep. of S. Todd, Dec. 5, 2011 (BP) at 295:5-25 (Attach. A, Ex. 30).
[65] Dep. of D. Sustala, Sept. 19, 2011 (BP) at 77:5-15 (Attach. A, Ex. 21).
[66] *Id.* at 116:21-24; 126:2-127:4.
[67] *Id.* at 129:22-130:16; Dep. of S. Todd, Dec. 5, 2011 (BP) 305:20-306:12 (Attach. A, Ex. 30).

responsibility, we only verify as is in 30 CFR 250.902 . . . and that does not necessarily cover all of 901."[68]

On November 27, 2002, Sustala attempted to set up a meeting with ABS's contact in Korea and stated, "[t]here seems to be talk that no one has had to certify plans, drawings and specifications and/or that the ABS verification is the same certification. Based on a reading of the regulations this seems rather illogical."[69] Sustala knew not only that the CVA verification was separate and distinct requirement under the regulations[70] but also that BP needed to seek a waiver for DSME or get the DSME drawings certified by some other means.[71]

Moreover, Myles Butler forwarded Sustala's November 21, 2002 email to personnel on the floating systems team and added - in red - his understanding of who needs to stamp the drawings.[72] For the certified design and "as-built" plans and specifications that needed to be kept on file for the life of the Atlantis platform per the 30 C.F.R. § 250.901(d) certification statement, Butler typed in "(DSME/BP)."[73] Because

[68] Nov. 26, 2002 (1:56PM) Email from L. Pekel (ABS) to D. Sustala (BP) [BPEP_ABB_00112443] (Attach. A, Ex. 32); *see also* Nov. 26, 2002 (4:28PM) Email from D. Sustala (BP) to L. Pekel (ABS) [BPEP_ABB_00112441 to BPEP_ABB_00112442] (Attach. A, Ex. 33); Nov. 26, 2002 (4:38PM) Email from L. Pekel (ABS) to D. Sustala (BP) [BPEP_ABB_00112440] (Attach. A, Ex. 34); Dec. 6, 2002 (11:53PM) Email from L. Pekel (ABS) to D. Sustala (BP) [BPEP_ABB_00112401 to BPEP_ABB_00112402] (Attach. A, Ex. 35); *accord* Dep. of D. Sustala, Sept. 19, 2011 (BP) at 111:8-112:15 (Attach. A, Ex. 21).

[69] Nov. 29, 2002 Email exchange between P. Ganguly (Millennium Technical Consultants) and D. Sustala (BP) [BPEP_ABB_00112426 to BPEP_ABB_00112427] (Attach. A, Ex. 36).

[70] Dep. of D. Sustala, Sept. 19, 2011 (BP) at 128:14-23 (Attach. A, Ex. 21).

[71] *See* Oct. 24, 2002 Email from D. Sustala (BP) to P. Ganguly (Millennium Technical Consultants) [BPEP_ABB_00112616] ("Remind me, for the CVA process reviews under Daewoo, doesn't ABS have to also review some of the construction drawings. Hence wouldn't we also have to obtain Daewoo lead engineer's resume info also?") (Attach. A, Ex. 37).

[72] Nov. 22, 2002 Email from S. Kinnaman to D. Sustala [BPEP_ABB_00112450 to BPEP_ABB_00112452] (Attach. A, Ex. 38).

[73] *Id.* at BPEP_ABB_00112451.

DSME was producing the detailed design and the "as-built" drawings[74] for the hull, Butler's conclusion that the DSME set was the set that needed to be certified by a professional engineer was both obvious and correct.[75] By regulation, the lessee was required to have the "**detailed** structural plans . . . and specifications for new platforms . . . certified by a registered professional engineer or civil engineer specializing in structural design." 30 C.F.R. § 250.901(d) (2002) (emphasis added).

Bryan Domangue, MMS Houma District Manager, testified that he was not aware that DSME provided engineering design services for BP Atlantis at the time he was reviewing the Atlantis permits.[76]

c. An Engineering Drawing Is "Certified" By Application of a Seal.

Under the Texas Engineering Practices Act, "[a] plan, specification, plat, or report issued by a license holder must include the license holder's seal placed on the document." TEX. OCC. CODE § 1001.401(b). A certified drawing must bear the seal of a licensed engineer. Black's Law Dictionary defines "certify" as "to authenticate or verify in writing." BLACK'S LAW DICT. (9th ed. 2009).

The El Paso Court of Appeals has noted that engineering plans "[are] certified with the seal," and that an engineer's personal seal cannot be sold or transferred and "carr[ies] with [it] the [engineer's] representation of personal accountability independent of any employment contract with [his or her] employer." *George Thomas Home, Inc. v. Southwest Tension Systems, Inc.*, 763 S.W.2d 797, 800 (Tex. App.—El Paso

[74] *See* DSME Contract at BPEP_ABB_04076464 ("As-Built Drawings") (Attach. A, Ex. 25).
[75] Nov. 22, 2002 Email from S. Kinnaman to D. Sustala [BPEP_ABB_00112450 to BPEP_ABB_0011252] (Attach. A, Ex. 38)
[76] Dep. of B. Domangue (MMS) at 99:23-100:3 (Attach. A, Ex. 4).

1998, no writ); *see also Glenn v. Nortex Foundation Designs, Inc.*, 2008 WL 2078510, at *3 (Tex. App—Ft. Worth May 15, 2008, pet. denied) (a licensed structural engineer "applies his seal to certify the foundation's engineering plans"). Courts in other states have construed the import of certifying plans with a seal similarly. The Supreme Court of Colorado also has held that where

> [p]lats must be certified by a licensed engineer or surveyor before they may be filed for public record, . . . [t]he required seal certifies expertise . . . . It also acknowledges the surveyor's responsibility to protect the public for any mistakes or negligence in the survey which bears the seal.

South Park Land & Livestock Co., Inc. v. Hamilton Enter., Ltd., 538 P.2d 444, 445 (Co. 1975); *accord Beck v. Sampson*, 186 A.2d 783, 785 (Me. 1962) (stating that an architect's seal was placed when the architects "adjudged [the plans] to be in a finished state [and] to certify that such had been prepared by or under his direct supervision").

If an engineering drawing is missing the seal of a registered professional engineer, then that drawing is not a certified design.

d. BP Knew That Seals Were Required.

BP was aware that seals were required by MMS regulations in the earliest stages of the Atlantis project. On October 23, 2002, Ben Thurmond (BP) sent an e-mail to Sustala, stating that he had been to an Atlantis hull planning meeting where he asked who was stamping the drawings for the hull.[77] His question was met with confusion because there was apparently no plan to acquire professional engineering stamps for the hull drawings. It was his understanding from work with Shell and Exxon that MMS regulations required professional engineering stamps, and he had heard that the hull

[77] Oct. 23, 2002 Email from B. Thurmond to D. Sustala [BPEP_ABB_00112629 to BPEP_ABB_00112630] (Attach. A, Ex. 39).

and mooring drawings for BP Holstein would be stamped. He asked for Sustala's comment on the issue.

Sustala asked for clarification on the type of drawing, and Thurmond responded,

> [r]egardless of the type of drawing, none of the hull and mooring drawings for Atlantis hull and moorings will be stamped according to the current plans. Unless stamping is somehow part of the CVA's (ABS) responsibility. We need to check on this. No one on [Floating Systems Team] has plans to stamp drawings. And it's not in GVA's, KBR's, or DSME's scope.

After receiving Thurmond's initial email, Sustala sent an email to one of the Swedish Engineers from GVA inquiring about stamped certifications.

> Some of our regulations require that drawings be stamped by a Professional Engineer. In the US a degreed engineer with sufficient experience can take a test and be recognized as a "Professional Engineer" –(PE). Various regulations require certain drawings to be prepared and finally reviewed under the supervision of a "PE". The engineer is given a stamp to mark the drawings. Does sweden [sic] have a similar program?[78]

Sustala sent another e-mail later that morning to James Faulkner at BP, stating plainly that

> MMS regulations require that platform drawings and plans be prepared under the supervision of a PE [professional engineer]. **A written statement and PE stamp[79] is generally required.** This is a USA type of procedure and many other countries do not have a similar program.
>
> In any case, I can probably get a waiver from this requirement, but will need you to provide a resume for each of the principal engineers at each of our foreign companies showing their education and experience.
>
> The alternative is to have BP engineers stamp all the drawings or hire a separate company to review and stamp all of the drawings.

[78] Oct. 24, 2002 Email from D. Sustala to K. Jansson (GVA) [BPEP_ABB_00112524 to BPEP_ABB_00112526] (Attach. A, Ex. 40).

[79] The terms professional engineering stamp and professional engineering seal are used interchangeably. *See* Dep. of R. Peloubet (BP) at 166:6-19; 168:14-25 (Attach. A, Ex. 41).

> Since the foreign work is primarily [Floating System Team] it is up to you guys to determine whether you feel you gain advantage by having another review including the extra $$$ + Time [sic][80]

The next day, on October 25, 2002, Ralph Phillips from Mustang, who performed the topsides engineering, asked Sustala if he was available for a meeting with the Mustang manager of engineering "to discuss the options for PE stamping of Atlantis design drawings."[81]

On November 21, 2002, Sustala sent another email to recipients at both BP and Mustang with the subject heading "Certification Requirements for Platforms and Production Systems."[82] In this e-mail, he expressly stated the requirements for complying with MMS regulations:

> Traditionally, the easiest method of proving that particular drawings, plans or specifications were reviewed or prepared by or under the direct supervision of a registered professional engineer has been though the use of the PE stamp. ***It seems difficult to comply with MMS requirements without use of the PE stamp.*** The Atlantis Project should be prepared to stamp drawings and/or identify the particular registered engineers by Name, Title, and PE Registration No. that have certified or supervised preparation of particular designs, plans and specifications.

e. BP Knew That Its Platform Certification Regarding Professional Engineering Certification Was False.

BP understood that it was certifying with its September 2002 platform application that the Atlantis detailed structural plans would be certified by a registered professional structural engineer or a civil engineer specializing in structural design and that those certified designs would be kept on file at BP's office in Houston.[83] BP knew

[80] Oct. 24, 2002 Email from D. Sustala to J. Faulker [BPEP_ABB_00112627] (emphasis added) (Attach. A, Ex. 42).
[81] Oct. 25, 2002 Email from R. Phillips to D. Sustala [BPEP_ABB_00112508] (Attach. A, Ex. 43).
[82] Nov. 21, 2002 Email from D. Sustala [BPEP_ABB_00112453 to BPEP_ABB_00112454] (Attach. A, Ex. 44).
[83] Dep. of D. Sustala, Sept. 19, 2011 (BP) at 61:8-63:2 (Attach. A, Ex. 21).

that it had contracted on September 1, 2001, for the detailed design work and "as-built" drawings to be developed by DSME in Korea.[84] BP knew that DSME's Korean personnel could not certify the drawings with a professional engineer's seal.[85]

BP made efforts to have the hull structural drawings certified with a professional engineering seal by a United States engineering company but did not actually have that work done.[86] Ultimately, BP made a determination not to seek a waiver for the structural design work performed by DSME.[87]

BP did not inform MMS that DSME was performing the detailed design work and developing the "as-built" drawings to be maintained at BP's Houston office as required by the 30 C.F.R. § 250.901(d) certification. BP agreed with its verification agency ABS not to submit any DSME drawings to the agency as part of the platform verification program under 30 C.F.R § 250.902, and BP did not seek the necessary deviation from the certification requirement.[88] This failure to seek permission to rely on engineering documents prepared by persons who were not registered professional engineers and could not certify the plans and specifications with a professional engineering seal "indicates nothing less than an intention to deceive," as the Fifth Circuit held in *United States v. Aerodex*, 469 F.2d 1003, 1008 (5th Cir. 1972) (failing to seek

[84] DSME Contract [BPEP_ABB_04076454 at BPEP_ABB_04076462 and BPEP_ABB_04076464] (Attach. A, Ex. 25).
[85] Dep. of D. Sustala, Sept. 19, 2011 (BP) at 85:4-19; 91:19-92:9; 104:14-105:3; 145:8-13 (Attach. A, Ex. 21).
[86] Nov. 26, 2002 (1:56PM) Email from L. Pekel (ABS) to D. Sustala (BP) [BPEP_ABB_00112443] (Attach. A, Ex. 32); *see* Dep. of D. Sustala, Sept. 19, 2011 (BP) at 111:8-112:15 (Attach. A, Ex. 21).
[87] Dep. of D. Sustala, Sept. 19, 2011 (BP) at 116:21-24; 126:2-127:4 (Attach. A, Ex. 21).
[88] *Id.* at 129:22-130:16.

permission to substitute compliant parts or to disclose manner of purported compliance is false claim).[89]

DSME's designs for the hull were, in fact, inadequate. BP had to rebuild entire systems in the hull at the integration site in Ingleside, Texas due, in part, to Coast Guard objections.[90] Further, that BP managed to build a hull from engineering plans that were not certified by a registered professional engineer as required by regulation is irrelevant to the inquiry of whether BP submitted a false claim. As the Fifth Circuit held in *Longhi*, "the focus of the FCA is on the truth of the statements to the government, not the end product." *Longhi*, 513 F. Supp. 2d at 880 (citing *Aerodex, Inc.*, 469 F.2d at 1007).

The platform certification was literally false when submitted with BP's September 2002 platform application; it was false when the United States granted the final platform installation approval on January 16, 2007; and it was made with the requisite scienter under the FCA.[91]

---

[89] *See also United States ex rel. Cantekin v. Univ. of Pittsburgh*, 192 F.3d 402, 411-12 (3d Cir. 1999) (where defendants was made aware of need to disclose private research funding sources but failed to include them in submission, the omission will support a conclusion that defendant acted with actual knowledge of falsity of claim). The failure to seek the waiver and proceed without informing the agency that DSME could not certify the final design drawings is especially egregious given the fact that BP's Floating Systems Team fully understood that the matter of the waiver, "may surface again in regard to the Daewoo Shipyard (DSME) detail design work," and informed Sustala that, "[t]he Atlantis Project will be likewise ready to provide similar documentation for waiver of DSME PE certification." *See* March 24, 2004 Email from S. Kinnaman to D. Sustala [BPEP_ABB_00110497 to BPEP_ABB_00110499] (Attach. A, Ex. 45).

[90] Dep. of F. Ragan, Sept. 8, 2011 (BP) at 109:5-114:14 (Attach. A, Ex. 46); Nov. 12, 2005 Email from F. Ragan to K. Dejohn, L. Osborn and D. Sustala [BPEP_ABB_00110014 to BPEP_ABB_00110015] (Attach. A, Ex. 47).

[91] *See* Dep. of S. Todd, Dec. 5, 2011 (BP) at 302:10-19 (Attach. A, Ex. 30).

3. BP Did Not Develop "As-Built" Drawings.

a. BP Did Not Perform "As-Builting."

BP does not have a complete set of Atlantis "as-built" plans and specifications or a list of drawings that make up the "as-built" set.[92] As discussed above, on August 9, 2010, Todd (BP), sent a letter to MMS responding to the agency's request for a copy of the complete set of "as-built" drawings as required by OCSLA regulations.[93] Of the 2,104 drawings submitted to MMS in August 2010 as Todd's Books 1 – 6, the revisions histories show only 72 drawings (3.4%) are "as-built."[94] 1,667 of the drawings (79%) were last revised prior to May 2005, when the Atlantis platform integration began.[95] Two hundred twenty-six drawings (226 or 11%) have no date.

"As-built" drawings, necessarily, are created ***after an edifice is constructed***. *See, e.g., McIntosh Land Co. Ltd. P'ship v. Fairfield Fletcher Ltd. P'ship*, 2005 WL 2656577, at *5 (M.D. Fla. Oct. 18, 2005) (plaintiffs unreasonably relied on assertion that plans were "as built" plans when the plans were created two years before construction was completed; "as built" plans are created after construction is finished); *DiBiase Corp. v. Jacobowitz*, 682 N.E.2d 1382, 1385 (Mass. App. Ct. 1997) ("as built" plans contemplate edifices already in being; requirement for "as built" plans can have no application either to land or to buildings yet to be constructed); *Bangor Water Dist. v. Malcolm Pirnie Eng'rs*, 534 A.2d 1326, 1327 n.1 (Me. 1988) ("As-built drawings are made after a construction project is

[92] Dep. of G. Malone (BP) at 49:25-50:11; 70:25-72:10 (Attach. A, Ex. 48).
[93] Aug. 9, 2010 Letter from S. Todd to M. Saucier (MMS) [BPEP_ABB_00115564 to BPEP_ABB_00115566] (Attach. A, Ex. 20).
[94] Decl. of Mike Sawyer, Dec. 28, 2011 at ¶ 10 (Attach. C)
[95] *Id.*; *See* Aug. 30, 2010 Email from C. Ward to K. Smith (Hull arrives in Corpus Christi from Korea on May 25, 2005. Integration ran from May 2005 through August 2006.) [BPEP_ABB_03493064] (Attach. A, Ex. 49).

complete. These drawings are supposed to indicate how a project actually has been built, as opposed to how the project was planned to be built."); *Elliott v. Fosdick & Hilmer*, 460 N.E.2d 257, 312 (Ohio Ct. App. 1983) ("The very purpose of an 'as built' drawing is to reflect any changes which the field situation might have required to be made in the pre-project drawings"; safety problems introduced where plaintiff relied on inaccurate "as built" drawing that failed to reflect change in construction). Notably, Duff (BP) agrees, and testified that "as-builting" cannot take place until after everything is installed in place.[96]

The evidence demonstrates that "as-built" drawings were not created after the integration of the Topsides and the hull.[97] DSME fabricated the hull in Korea and marked its drawings "Rev. 60" to show fabricated condition upon the hull's leaving Korea.[98] The topsides and the hull were integrated in Ingleside, Texas, for over eighteen months[99] where many changes in the metal were made to combine the topsides and the hull into a single structure and entire systems were rebuilt.[100] BP, however, did not develop design drawings reflecting the "as-built" condition of the combined structure once all the changes were made.[101]

---

[96] Dep. of B. Duff (BP) at 110:3-15 (Attach. A, Ex. 10).

[97] Likewise, BP's subsea contractor Technip did not update design drawings for Atlantis to "as-built" condition. Dep. of J. Upchurch (Technip) at 106:21-24 (Attach. A, Ex. 50). If BP had asked Technip to produce "as-built" drawings and had provided the necessary "as-built" data, then Technip would have performed that work. *Id.* at 135:2-8.

[98] Dep. of K. Dejohn (BP) at 43:11-17 (Attach. A, Ex. 29).

[99] Dep. of F. Ragan, Sept. 8, 2011 (BP) at 51:6-9; 56:18-25 (Attach. A, Ex. 46).

[100] Dep. of K. Dejohn (BP) at 41:16 – 44:9 (Attach. A, Ex. 29); Dep. of F. Ragan, Sept. 8, 2011 (BP) at 109:5-113:14 (Attach. A, Ex. 46); Dep. of B. Naseman (BP) at 98:16-22 (Topsides remediation necessary at integration shipyard); 139:6-140:7 (discussing Disc. Ex. 344, $3-4M allocated for carryover work required for hull at integration shipyard) (Attach. A, Ex. 15).

[101] Dep. of K. Dejohn (BP) at 133:23 - 135:2; 135:19-136:20 (Attach. A, Ex. 29).

Nor did BP "as-built" the Atlantis during the commissioning phase of the project. Commissioning is the process of verifying the mechanical integrity of the equipment–ensuring that it actually functions and is safe to start up.[102] BP's commissioning teams did not compare design documentation to the constructed facility. A BP internal document states that in March 2008, 5 months after first oil, only 54% of the "As Builts from work carried out at Ingleside and subsequent modifications" and 0% of the "Other As Builts, DSME, GVA base design" were complete.[103]

Moreover, according to Linn Osborne, Project Manager of Mustang, BP's engineering contractor for the Atlantis topsides including portions of the production safety system, Mustang did not verify that the construction of the topsides conformed to the design after fabrication. Although Mustang believes that McDermott International, Inc. would have been responsible for the confirmation, Mustang does not know whether McDermott actually performed the work.[104]

b. BP's Failure to Follow Its Own Specifications Requiring "As-Built" Stamps Shows That "As-Builting" Never Occurred.

BP and its contractors created standards and procedures that, if followed, would have ensured compliance with the OCSLA regulations requiring "as-built" plans and specifications for the Atlantis. The standards required the creation of "as-built" drawings and the clear marking of such drawings as "as-built," which is industry practice.[105] For example:

---

[102] Dep. of R. Berger, Sept. 15, 2011 (BP) at 22:15-20; 23:14-24:10; 153:14-154:6; 169:15-21 (Attach. A, Ex. 51).
[103] March 5, 2008 Email from B. Naseman to A. Taylor attaching FST Handover Schedule [BPEP_ABB_01524687 to BPEP_ABB_01524688] (Attach. A, Ex. 52).
[104] Dep. of L. Osborne (Mustang) at 19:17-20:9; 23:16-20; 44:6-46:14; 48:21-24 (Attach. A, Ex. 53).
[105] *See* Decl. of Glen Stevick at ¶¶10-15 (Attach. D).

(1) BP's Specification for Data and Information Handover From Projects into Operations, Spec. No. 1400-85-IM-SP-8700. Section 4.2 Requires that "[t]he Project must ensure that the "As Built" documentation **shall be clearly identified as "As Built**" and verified as correct by inclusion of authorized approval signatures."[106]

(2) BP Gulf of Mexico SPU Atlantis Engineering Workflow Process, BP Doc. No. 1440-10-GE-RP-1007. "As individual projects are completed, the documentation is handed over to Operations as outlined in 1400-85-IM-SP-8700, which defines the formats, timing and condition of the documentation as it is handed over to Operations. **As-builting is required** for the indicated drawings prior to handover."[107]

(3) BP GOM DW Projects Document Control Procedure, BP Doc. No. ssproj-10-PC-PR-000001: "This procedure is required for ALL BP DWP Projects."[108] "Upon completion of installation the latest revision of Issued for Construction is **marked up to reflect any constructed changes and issued 'As Built.'**"[109]

(4) BP Gulf of Mexico Deepwater Development Program Contractor Project Document Control Procedure, No. 1400-10-AD-PR-0219 at § 6 states: "The status of the documents shall also be **clearly identified . . . Revised as Noted and As-Built**."[110]

(5) BP Gulf of Mexico Deepwater Development MEI [Mustang Engineering Inc.] Project Document Control Procedure, No 1400-10-AD-PR-0214 at § 5 states: "The status of the documents shall also be **clearly identified: . . . As-Built**."[111]

(6) BP Gulf of Mexico Deepwater Development Atlantis Project Orientation and Procedures Manual (POPM), No. 1440-21-POPM-PR-0001. Section 4 devotes 15 pages entirely to the required

---

[106] Specification for Data and Information Handover from Projects into Operations, 1400-85-IM-SP-8700 [BPEP_ABB_00115909 at BPEP_ABB_00115917] (emphasis added) (Attach. A, Ex. 54).
[107] Atlantis Engineering Workflow Process [BPEP_ABB_03500136 at BPEP_ABB_03500143] (emphasis added) (Attach. A, Ex. 55).
[108] Document Control Procedure, ssproj-10-PCPR-000001 [BPEP_ABB_01631097 at 01631100] (Attach. A, Ex. 56).
[109] *Id.* at BPEP_ABB_01631106 (emphasis added).
[110] Contractor Document Control Procedure, 1400-10-AD-PR-0219 [BPEP_ABB_03505121 at 03505126] (emphasis added) (Attach. A, Ex. 57).
[111] MEI Document Control Procedure, 1400-10-AD-PR-0214 [BPEP_ABB_03505155 at BPEP_ABB_03505159 to BPEP_ABB_03505160] (emphasis added) (Attach. A, Ex. 58).

> procedures for "redlining" and "as-builting" drawings and to itemizing which drawing must be "redlined" and which must be "as-built." It also includes a sample "As-Built" stamp. The Primary Steel Drawings for the Atlantis Platform were required to be "as-built" at fabrication, at integration, and at commissioning.[112]

Likewise, BP's contracts with its Atlantis engineering contractors Mustang and Technip require the contractors to provide, at a minimum, "as-built" drawings that are "stamped as-built." BP's contract with Mustang states that Mustang was to provide "*As-built drawings and documentation.*"[113] It also states that:

> At a minimum, Contractor shall provide to Company the following documentation upon Completion of the Work:
>
> 11.6.3 One set of reproducible rolled Mylar tracings and two sets of folded blue line prints **stamped "As-Built"including:**
>
> - Civil Drawings
> - Process Drawings
> - Piping Drawings
> - Structural Drawings
> - Electrical and Instrument Diagrams
> - Layout Plans
> - Equipment lists
> - Safety plans.[114]

BP's contract with Technip includes nearly identical language, also requiring "as-built" drawings to be stamped "As-Built."[115]

No BP deponent recalls a decision being made not to follow BP's "as-builting" procedures.[116] But Frank Ragan, who was the controls system engineer for Mustang on

---

[112] Project Orientation and Procedures Manual, 1440-21-POPM-PR-0001 [BPEP_ABB_01453338 at BPEP_ABB_01453359 to BPEP_ABB_01453374] (Attach. A, Ex. 59); *see also* Decl. of Glen Stevick at ¶11 ("As-built drawings are typically kept during all phases of a construction project.") and ¶13 (Attach. D).
[113] Topsides Design Engineering and Project Services Contract, Ex. A "Scope of Work," Section 2.3.4.1 [MUSTANG ENG 0000001 at MUSTANG ENG 0000072] (Attach. A, Ex. 60).
[114] *Id.* at MUSTANG ENG 000090.
[115] Well Systems Integrations and Design Services Engineering Contract, Ex. A "Scope of Work," Section 11.6 [T-USA000001 at T-USA000056] (Attach. A, Ex. 61).

Atlantis and is now a BP employee, testified that BP did not follow an established procedure for upgrading engineering drawings to "as-built."[117] Ken Dejohn, engineering team lead/operations manager for Atlantis, testified that the procedural requirements were "impractical."[118] Bill Naseman, Atlantis project services manager, the person charged with ensuring that BP contractors and engineers followed the document control guidelines testified that he did not think BP procedures address "as-built" drawings.[119] He agreed, however, that the purpose of having document control is to keep track of documentation necessary for operations, and that it is important to have appropriate engineering drawings.[120]

c. Atlantis Was Over Budget By Almost $4 Billion.

Atlantis first oil was delayed for over a year, and the Atlantis Project was over budget by $3.9 billion. The original cost of the project was forecasted at $2.003 billion, and first oil was scheduled for July 2006.[121] A delay in schedule beyond the date initially selected for first oil affects the value of the project going forward, and meeting that first oil date is very important.[122] Atlantis achieved first oil in October 2007, a significant delay that decreased the value of the project.[123] In addition, the overall cost of the project increased from $2.003 billion to $5.932 billion, in part because of carryover

---

[116] Dep. of B. Duff (BP) at 138:15-139:6 (Attach. A, Ex. 10); Dep. of F. Ragan, Sept. 8, 2011 (BP) 175:13-176:7 (Attach. A, Ex. 46); Dep. of K. Dejohn (BP) at 136:21-138:20 (Attach. A, Ex. 29); Dep. of R. Malone (BP) at 188:13-189:12 (Attach. A, Ex. 62); Dep. of S. Todd, Dec. 5, 2011 (BP) at 386:13-25 (Attach. A, Ex. 30).
[117] Dep. of F. Ragan, Sept. 8, 2011 (BP) at 33:8-16; 34:23-36:7; 162:3-163:1 (Attach. A, Ex. 46).
[118] Dep. of K. Dejohn (BP) at 48:20-50:24 (Attach. A, Ex. 29).
[119] Dep. of B. Naseman (BP) at 187:23-188:20 (Attach A, Ex. 15).
[120] *Id.* at 184:19-185:13.
[121] Finance Memo. [BPEP_ABB_03534372 to BPEP_ABB_03534379] (Attach. A, Ex. 63); Dep. of B. Naseman (BP) at 63: 7-9; 67:7-70:4 (Attach. A, Ex. 15)
[122] Dep. of B. Naseman (BP) at 82:17-22; 90:13-91:14 (Attach. A, Ex. 15).
[123] *Id.* at 105:7-106:2; 109:14-110:5.

work required for the hull at the integration yard and topsides remediation that was required.[124] At the time BP contractors were supposed to be developing "as-builts" under their contracts, which were set up on a time and materials basis,[125] BP was seeking authorization for a threefold increase in the Atlantis budget. Naseman testified that he does not know where the money for updating engineering documents to "as-built" was allocated in the budget, but he speculated the money could be found under "BP Travel & Entertainment."[126]

d. BP Claims to Rely On Documentum to Find Latest Revision.

BP claims that the latest design revision of an engineering drawing as found in its electronic filing system Documentum may be relied upon as the "as-built."[127] This claim is directly contrary to BP's many internal procedures and specifications relating to "as-builting." It is not supported by any written procedure or specification and was unknown to Duff and his project services co-workers in August 2008 when he wrote his email refusing to turn over incomplete documents to operations. It requires assuming that thousands of document revision histories are wrong and that the documents were upgraded without any written record. This purported "policy" seems to have originated during the MMS investigation. It is not a system; it is an excuse.

---

[124] GOM, Atlantis South Supplementary FM and Atlantis Phase 2 Strategy [BPEP_ABB_03534380, BPEP_ABB_03534382, BPEP_ABB_03534384, BPEP_ABB_03534386, BPEP_ABB_03534388, BPEP_ABB_03534390, BPEP_ABB_03534392] (Attach. A, Ex. 64); Atlantis South Supplement Cost Estimate Summary [Disc. Ex. 347] (Attach. A, Ex. 65); Dep. of B. Naseman (BP) at 98:16-22; 139:6-140:7; 102:4-19; 176:20-177:24 (Attach. A, Ex. 15).

[125] Dep. of B. Duff (BP) at 32:9-33:8 (Attach. A, Ex. 10); Dep. of K. Dejohn (BP) at 103:23-106:7 (Attach. A, Ex. 29).

[126] Dep. of B. Naseman (BP) at 178:16-18; 181:14-183:18 (Attach. A, Ex. 15).

[127] Dep. of F. Ragan, Sept. 8, 2011 (BP) at 155:8-19 (Attach. A, Ex. 46); Dep. of K. Dejohn (BP) at 55:3-24 (Attach. A, Ex. 29); Dep. of R. Peloubet (BP) at 161:21-163:16 (Attach. A, Ex. 41).

As noted above, the latest revision date for at least 79% of the drawings BP now claims are the "as-built" set was before integration of the topsides and hull, and none of those are revised "as-built." If no changes or markups are made to a drawing, then it is industry practice for the engineer of record to provide an annotation indicating whether additional engineering evaluation was necessary and where it can be found. Once all changes have been reconciled, the revision history is entered showing "as-built," and the engineer stamps the drawing.[128] BP written procedure is the same.[129]

All BP witnesses testified that there is no way to look at an Atlantis engineering drawing and determine whether it has undergone the "as-builting" process because BP did not follow its internal procedures and industry practice which requires engineering drawings to be clearly labelled.[130] Moreover, both Ragan and Robert Peloubet (engineering manager for Atlantis subsea projects) testified that reliance on any descriptor on an Atlantis engineering document is inappropriate.[131] Their experience with BP was that a document may have an "as-built" stamp but subsequent changes have been made. In fact, BP witnesses have testified that the process of comparing the design drawing to actual construction never occurred.[132]

Even assuming the latest revision could be considered an "as-built" drawing, BP did not create or implement such a policy. There is no such written procedure. The

[128] Decl. of Glen Stevick at ¶12 (Attach. D).
[129] *See infra.* Section A.3.b above.
[130] Dep. of F. Ragan, Sept. 8, 2011 (BP) at 155:8-19 (Attach. A, Ex. 46); Dep. of K. Dejohn (BP) at 55:3-24 (Attach. A, Ex. 29); Dep. of R. Peloubet (BP) at 164:4-12 (Attach. A, Ex. 41); Dep. of S. Todd, Vol. II (BP) at 365:5-24 (Attach. A, Ex. 41).
[131] Dep. of F. Ragan, Sept. 8, 2011 (BP) at 155:8-19 (Attach. A, Ex. 46); Dep. of R. Peloubet (BP) at 21:17-20; 164:4-12 (Attach. A, Ex. 41).
[132] Dep. of K. Dejohn (BP) at 133:23 - 135:2; 135:19-136:20 (Attach. A, Ex. 29); Dep. of R. Berger, Sept. 15, 2011 (BP) at 153:14-154:6 (Attach. A, Ex. 51).

Documentum system is so disorganized that operations personnel resort to taping document registers on the wall of their office or requesting necessary drawings directly from BP's contractors. Project management did not know which were the latest versions.[133]

BP contracted with Mustang for the project management of Atlantis, and Mustang was tasked with turning over all the finalized engineering documents to BP through transfer to Documentum.[134] Ultimately, however, the contract with Mustang was closed out before the process of finalizing and transferring the subsea documents to BP's Documentum occurred.[135] Documents were supposed to be coded with a sector number that would cause the documents to be uploaded into certain folders in Documentum automatically, but the coding was not consistent, and documents were mislabeled. [136] Accordingly, the team needed assistance from the engineering leads to determine the true status of each document.[137]

As part of that process, Duff recommended changing the numbering scheme on the documents because it was difficult to know what phase the document was for, *i.e.*, whether it was for Drill Center 1 or Drill Center 3 and whether the document was drawn for the system before the manifold changeout or after (SS-1 versus SS-2).[138] Further, Duff and Curtis had found that the documents were not coded correctly with

---

[133] Dep. of T. Curtis (BP) at 63:3-64:12 (Attach. A, Ex. 12).
[134] Dep. of B. Duff (BP) at 19:15-20:4; 27:14-28:13 (Attach. A, Ex. 10).
[135] *Id.* at 28:14-24; 89:17-90:1.
[136] Dep. of T. Curtis (BP) at 27:10-28:16 (Attach. A, Ex. 12).
[137] Dep. of B. Duff (BP) at 54:12-55:6; 56:1-20; 63:12-24; 117:23-118:17; 119:17-23 (Attach. A, Ex. 10); *See* April 25, 2008 Email from B. Naseman to W. Broman and B. Duff [BPEP_ABB_00091459] (Attach. A, Ex. 67).
[138] Dep. of B. Duff (BP) at 64:19-65:4 (Attach. A, Ex. 10); Dep. of T. Curtis (BP) at 31:19-33:20 (Attach. A, Ex. 12); *see* May 6, 2008 Email from B. Duff to A. Gregg, M. Garland, and T. Curtis [BPEP_ABB_01519199, BPEP_ABB_01519200] (Attach. A, Ex. 68).

precise sector numbers, so there were quality assurance issues regarding whether the documents were being loaded into the correct folder into Documentum.[139] If a document was loaded into the wrong folder, there was no way to retrieve the document once it was loaded incorrectly. In addition, it was not always possible to determine whether the document to be loaded was the latest version of the engineering drawing.[140]

Ron Berger, Atlantis senior subsea operations engineer, was also concerned with the Atlantis Documentation Handover Project ("ADHP").[141] Berger testified that Mustang did not know how to load the engineering documentation and had frequent turnover. He was worried that subsea documentation might not exist in Documentum if it was not loaded properly by someone who understood the subsea documents. As a result, on May 11, 2006, he sent an email invoking "STOP the JOB" on the ADHP because the work was unsafe.[142]

Berger's concerns with Documentum's reliability have borne out. In fact, just two days before the Deepwater Horizon incident occurred, operators on Atlantis were having difficulty finding the drawings they needed from Documentum, and Berger (BP) sent the operators a register he keeps taped to the wall in his office with the document

[139] Dep. of B. Duff (BP) at 65:17-67:13 (Attach. A, Ex. 10); Dep. of T. Curtis (BP) at 29:2-30:13; 31:19-33:20 (Attach. A, Ex. 12).
[140] Dep. of T. Curtis (BP) at 63:3-64:12 (Attach. A, Ex. 12).
[141] Dep. of R. Berger, Sept. 15, 2011 (BP) at 27:4-15; 165:11-168:16 (Attach. A, Ex. 51).
[142] May 13, 2008 Email from G. Imm to R. Berger [BPEP_ABB_00089380] (Attach. A, Ex. 69). Anyone has the ability to invoke "STOP the JOB" if they think the work is unsafe. *See* Dep. of B. Naseman (BP) at 199:5-11 (Attach. A, Ex. 15).

numbers he believes correspond to the designs that reflect the constructed Platform.[143] In addition, Atlantis operations personnel who were troubleshooting controls malfunctions in July 2008 had to request critical documents directly from BP's subsea contractor because the necessary drawings could not be found in Documentum.[144] Further, as late as May 2008, Mike Garland from BP project services directed Mustang to access floating systems documents contained on the floating systems server because neither the topsides nor floating systems documents were in Documentum.[145]

e. "As-Built" Drawings Are Critical to Safe Operations.

The installation of a complex facility such as Atlantis requires revisions and alterations of equipment to be made such that the facility as installed or "as-built" differs significantly from that depicted on construction drawings. To ensure that changes made during construction are safe and follow appropriate engineering principles and that operators and engineering personnel have drawings that reflect the condition of the facility after installation, lessees undergo an "as-built" procedure. "As-built" drawings are not merely redlines to previous versions of a drawing; "as-built" drawings have been rechecked by an engineer after redlining, have been re-issued with the changes, and have been marked "as-built."[146]

---

[143] April 20, 2010 Email from R. Peloubet to S. Todd [BPEP_ABB_00115759 to BPEP_ABB_00115760] (Attach. A, Ex. 70); Dep. of. R. Berger, Sept. 15, 2011 (BP) at 183:12-186:16 (Attach. A, Ex. 51); Dep. of S. Todd, Dec. 5, 2011 (BP) at 440:1-442:8 (Attach. A, Ex. 30).

[144] July 22, 2008 Email from N. Oza (BP) to S. Berg (Technip) [BPEP_ABB_03482184 to BPEP_ABB_03482185] (Attach. A, Ex. 71).

[145] May 12, 2009 Email from L. Osborne (Mustang) to M. Garland (BP) [BPEP_ABB_03505962 to BPEP_ABB_03505963] (Attach. A, Ex. 72); Dep. of L. Osborne (Mustang) at 167:12-171:24 (Attach. A, Ex. 53).

[146] Decl. of Glen Stevick at ¶9 (Attach. D).

John Upchurch, vice president of deepwater engineering for Technip, BP's engineering contractor for the Atlantis subsea including portions of the production safety system, and a Texas registered professional engineer, defines an "as-built" drawing as "a drawing that depicts the condition of a piece of equipment as it was actually built or constructed."[147] He considers it important to have a complete set of "as-built" drawings for a production facility like Atlantis because, "you want to know what you're operating. You want to know that your equipment was built the way it was intended to be built."[148] Ragan (BP) understands the phrase "as-builting" to mean, "a process of checking drawings, seeing if there are discrepancies, and updating them to match the current configuration."[149] Osborne (Mustang) also agrees that it is important to be able to determine whether the drawings on which procedures rely actually reflect the "as-built" condition and that an inability to make that determination creates a risk of using the wrong type of drawing to develop or finalize procedures.[150]

Todd (BP) agreed that it is important to verify construction drawings against the "as-built" facility.[151] The "as-builting" process is necessary to check for unintended deviations from the design and correct those and to record intentional deviations. He stated that "as-builts" ensure that operators can deliver safe and reliable operations.[152] He also testified that production facilities use thorough and detailed operating

[147] Dep. of J. Upchurch (Technip) at 29:24-30:19; 31:15-32:16; 42:11-22; 169:9-24 (Attach. A, Ex. 50); *see also* Decl. of Glen Stevick at ¶¶7-8 (Attach. D).
[148] Dep. of J. Upchurch (Technip) at 169:9-171:25 (Attach. A, Ex. 50); *see also* Decl. of Glen Stevick at ¶¶10-11 (Attach. D).
[149] Dep. of F. Ragan, Sept. 8, 2011 (BP) at 152:12-16 (Attach. A, Ex. 46).
[150] Dep. of L. Osborne (Mustang) at 157:2-16 (Attach. A, Ex. 53).
[151] Dep. of S. Todd, May 9, 2011 (BP) at 95:4-96:10 (Attach. A, Ex. 73).
[152] Dep. of S. Todd, Dec. 5, 2011 (BP) at 284:3-285:5 (Attach. A, Ex. 30).

procedures that must be based on accurate "as-built" drawings for activities that are "critical to safety and operability."[153]

Likewise, Upchurch testified that operating procedures and safety procedures rely on the accuracy of "as-built" drawings, and that if the procedures instruct operators to take action that is inconsistent with the actual operation of the facility, then it could cause "a breach of containment of hydrocarbons" or "a safety problem or a risk of harm to individuals."[154] Upchurch testified further that it is important to be able to distinguish between drawings that are actually "as-built" and drawings that are not.[155] He testified that if Technip provided an as-built drawing, then Technip would have stamped it "as-built."[156]

f. BP Acted in Reckless Disregard of the Falsity of Its Platform Certification Regarding "As-Built" Drawings.

BP acted in reckless disregard of the falsity of its platform certification regarding the development and maintenance of "as-built" plans and specifications for Atlantis. *See Longhi*, 513 F. Supp.2d at 877 (Defendant acted in reckless disregard of the truth when it submitted an incorporation date with its grant proposal that was inaccurate where Defendant admitted, "Dr. Munshi simply gave no thought to the date when he submitted the report."). Sustala never checked to see if BP had a specification defining "as-built" drawings and never confirmed whether "as-built" drawings were compiled

[153] Dep. of S. Todd, May 9, 2011 (BP) at 97:19-25 (Attach. A, Ex. 73).
[154] Dep. of J. Upchurch (Technip) at 170:7-171:25 (Attach. A, Ex. 50).
[155] *Id.* at 172:15-19.
[156] *Id.* at 177:7-12.

and maintained at BP's Houston office in accordance with OCSLA regulations prior to first oil (or ever).[157]

Dejohn (BP) testified that it was "impractical" to update design drawings to "as-built," and that BP's "as-builting" procedures reflected a "tremendous degree of rigor."[158] Testifying as BP's corporate representative, Dejohn stated plainly that, from the beginning of fabrication, BP never intended to revise to "as-built" in accordance with its written procedures.[159] When given an opportunity to change or modify his answer, Dejohn, supported by instructions from counsel, stood by his plain answer that compliance was never intended. BP's platform certification regarding "as-built" drawings, therefore, was literally false when made, it was false at first oil, it remains false today, and it was made with the requisite scienter.[160]

g. Todd Misled MMS About BP's "As-Built" Standards.

In addition, BP was not truthful in its responses to MMS during the agency's investigation. BP initially represented to MMS investigators that it had followed strictly BP's written procedures requiring "as-builting" at fabrication, integration, and commissioning and clearly labelling "as-built" drawings.[161] When MMS realized that BP's supposed "as-built" drawings did not show "as-built" revision histories and

---

[157] Dep. of D. Sustala, Sept. 19, 2011 (BP) at 150:17-22 (Attach. A, Ex. 21); Dep. of B. Naseman (BP) at 47:5-17 (testifying that neither Sustala nor Dejohn every contacted Atlantis Project Services to ensure that the engineering documents BP received from its contractors met regulatory requirements) (Attach. A, Ex. 15).
[158] Dep. of K. Dejohn (BP) at 48:20-50:24 (Attach. A, Ex. 29).
[159] *Id.* at 159:12-160:23.
[160] Even if Dejohn had not testified that it was BP's intention from the beginning of fabrication not to comply with the "as-builting" requirements, this Court already has held that certifications of future compliance can trigger FCA liability, reasoning that "by the time BP started producing oil and gas, its commitments for future compliance, if not fulfilled, had become false statements." *Abbott*, 781 F. Supp. 2d at 465 n. 18; *see also Augustine*, 289 F.3d 409.
[161] July 30, 2010 Email from S. Todd (BP) to B. Domangue (MMS) (with Power Point presentation attached stating that BP followed its Specification for Handover) [BPEP_ABB_00115609 at BPEP_ABB_00115620] (Attach. A, Ex. 74).

requested an explanation, BP developed an entirely new claim. In an email from Todd responding to a question regarding whether BP had any company standard that defines "as-built" for engineering drawings and how that standard compares to industry standards, BP omitted any reference to its many specifications that actually require "as-builts" to be so labelled.[162] Instead, Todd developed a new standard, without citation to any internal BP document, omitting the critical requirement for marking "as-built."[163] Todd testified that he and upper level management were aware that the documents BP was submitting to the agency in Books 1-6 were not revised "as-built."[164]

Todd testified that he does not think any person made a specific decision not to follow the written procedures.[165] He also testified that he does not think that failing to update drawings to "as-built" status was a BP company practice. He testified that he learned during the MMS investigation that the Projects side of Atlantis was not, in fact, revising to "as-built," so he determined that was the customary and usual business practice for *Atlantis*. In other words, the failure to follow BP's customary and usual business practice was now the customary and usual business practice for that *one project team*; a distinction BP failed to reveal to the federal investigators.

4. BP's False Certifications Were Material to the Platform Permit

[162] Aug. 20, 2010 Email from B. Domangue to D. Sustala [BPEP_ABB_01622474] (Attach. A., Ex. 75). The 2005 amendments to the Subpart I regulations state that the requirement to maintain the "as-built" drawings under 30 C.F.R. § 250.903 (2006) is such that, "respondents would keep them as usual and customary business practice." 70 Fed. Reg. 41556, 41517-72 (July 19, 2005). BP's written business procedures detailing how "as-built" drawings are to be produced and requiring the clear marking of such drawings "as-built" are the best evidence of BP's usual and customary business practice. Likewise, BP's contracts with its Atlantis engineering contractors Mustang and Technip requiring "as-built" drawings that are stamped "as-built" are clear evidence of BP's usual and customary business practice (which was not followed because BP's contractors did not develop "as-built" drawings).

[163] Aug. 25, 2010 Email from S. Todd (BP) to B. Domangue [BPEP_ABB_00082845 to BPEP_ABB_00082846] (Attach A, Ex. 76).

[164] Dep. of S. Todd, May 9, 2011 (BP) at 60:16-61:3; 63:23-64:19; 68:17-69:10 (Attach. A, Ex. 73).

[165] *Id.* at 50:24-54:3.

Approval.

This Court held that: "Unless and until the permit process was satisfied, BP did not have the lawful right to drill for, or extract, any oil or gas. . . Accordingly, false statements made during that process could certainly have had a natural tendency to affect the government's decision to allow BP to explore and develop the leases." *Abbott*, 781 F. Supp. 2d at 466. The Court noted that "the FCA requires proof only that the defendant's false statements 'could have' influenced the government's payment decision or had the 'potential' to influence the government's decision, not that the false statements actually did so." *Id.* at 467 (*quoting Longhi*, 575 F.3d at 469.)

Before conducting activities under its Exploration Plan or its Development Operations Coordinations Document, BP was required to obtain approval of the Atlantis Platform. 30 C.F.R. § 250.281. The subpart I regulations required that BP submit a certification that the detailed structural plans for the platform were certified by a registered professional engineer and that the certified design and "as-built" plans and specifications will be on file in a specified location. 30 C.F.R. § 250.901(d) (2002). The regulations stated that the regional supervisor must approve the application prior to platform installation. 30 C.F.R. § 250.900(b)(2002). Without BP's false certifications and government approval based on those certifications, "BP would never have received authorization to extract oil and gas from the OCS." *Abbott*, 781 F. Supp. 2d at 467. Moreover, the United States affirmatively stated to Judge Hoyt that, "false statements made during [the permit] process could certainly have had a natural tendency to affect the Government's decision to allow BP to explore and develop the lease." Doc. 69 at 12.

Therefore, BP's false certifications were material to the government's decision to permit BP to install Atlantis.

B. BP'S ATLANTIS PRODUCTION SAFETY SYSTEM APPLICATION WAS A FALSE CLAIM FOR GOVERNMENT PROPERTY. [166]

1. Introduction

OCSLA regulations expressly require "[p]roduction safety equipment . . . designed, installed, used, maintained, and tested in a manner to assure the safety and protection of the human, marine, and coastal environments." 30 C.F.R. 250.800(a). Regulations further condition commencement of oil and gas production upon MMS approval of the production safety system, which must comply with American Petroleum Institute ("API") Recommended Practice ("RP") 14C adopted by reference into the text of the regulations.[167] To obtain approval, BP was required to submit a permit application containing, among other things, a: "5) Certification that the design for the mechanical and electrical systems to be installed were approved by registered professional engineers." *Id.* at § 250.802(e)(5). BP submitted the false certification with its Atlantis production safety system permit application on August 1, 2005; MMS approved the permit on May 3, 2007. BP's certification was untrue when it was made, and BP made the certification with the requisite scienter. The production safety system permit application was a false claim for government property, and BP's false statements were material to the permit approval.

[166] The production safety system permit application requirements have not been renumbered in the Code of Federal Regulations and are the same today as they were in 2002.

[167] "Production ***shall not commence*** until the production safety system has been approved and a preproduction inspection has been requested by the lessee." 30 C.F.R. § 250.800(a) (emphasis added).

2. Definition of Production Safety System

The MMS petroleum engineer who approved the Atlantis production safety system permit,[168] defines a production safety system as "the devices used to measure and subsequently terminate production should there be an abnormal detectible condition."[169] He testified that the Atlantis production safety system includes, *inter alia*, the surface controlled subsurface safety valves, which are located 100 feet below the mud line in each well; the underwater safety valves of which there are two at each well site; the tree valves; the fast-acting chokes; the controls; the electronic communications links to the wells; and the boarding valves.[170] He agreed that one of the purposes of the production safety system is to detect abnormal conditions, like gas leakage, and have equipment to react to and minimize any potential adverse effects.[171]

According to API RP 14C, the production safety system extends to all process equipment from the wellhead to the discharge point downstream of the process facilities. *See* API RP 14C incorporated at 30 C.F.R. §§ 250.198; 802(e)(2) & (3).[172] API RP 14C specifically states that the Safety Analysis Function Evaluation Chart ("SAFE Chart"), which is required to be submitted with the production safety system application (*see* 30 C.F.R. § 250.802(e)(2)), "should list all process components[173] . . . with

[168] Dep. of B. Domangue (MMS) at 7:4-13; 61:21-63:15 (Attach. A, Ex. 4). Mr. Domangue is currently the district manager for the BSEE Houma District.
[169] *Id.* at 56:16-58:24.
[170] *Id.* at 232:18-233:10.
[171] *Id.* at 153:6-12.
[172] MMS issued a Final Rule incorporating the 7th Edition of API RP 14C into the regulations governing oil, gas, and sulphur operations on the OCS on August 9, 2002. 67 Fed. Reg. 51,757 (Aug. 9, 2002) (eff. date Sept. 9, 2002). MMS explained that, "[t]he legal effect of incorporation by reference is that the material is treated as if it were published in the Federal Register. This material, like any other properly issued regulation, then has the force and effect of law." 67 Fed. Reg. 51,757.
[173] Section 3.4(e) of API RP 14C defines "all process components" as:

their required safety devices, and should list the functions to be performed by each device." API RP 14C, Paragraph 4.3, Page 16.

The chief of the Regulations and Standards Branch, MMS, explained in an email to plaintiff FWW that the production safety system review of subsea systems, wellheads, trees, manifolds, pipelines/flowlines, controls, umbilicals, and risers are conducted by MMS under subpart H of the regulations.[174] The 30 C.F.R. § 250.802(e) certification statement, therefore, extends to those components.

3. Production Safety System Permit Application and Approval

As part of its Atlantis production safety system permit application, BP submitted 522 drawings by letters dated February 23, 2005, February 25, 2005, August 1, 2005, October 11, 2005, May 4, 2006, May 8, 2006, May 23, 2006, and September 19, 2006.[175] With the August 1, 2005 letter, BP submitted the professional engineering statement as Item 5 of Volume II of its production safety system application.[176] The statement makes the following certification:

> Per the requirements of 30CFR250, Section 250.802(e)(5), this document certifies that the design for the Mechanical and Electrical systems for the Atlantis semi-submersible production unit, South Green Canyon Block 743 **were reviewed and approved by registered professional engineers licensed in the state of Texas**.

> All process components on a production platform comprise the entire process from the wellhead to the most downstream discharge point; thus, all process equipment and functions are incorporated into the safety system.

API RP 14C -- Recommended Practice for Analysis, Design, Installation, and Testing of Basic Surface Safety Systems for Offshore Production Platforms, Sect. 3.4(e), Page 8 (Attach. A, Ex. 77).

[174] February 17, 2010 Email from W. Hauser, MMS, to Z. Corrigan, FWW [FWW0018028 to FWW0018029] (Attach. A, Ex. 78).

[175] *See* May 3, 2007 Letter from B. Domangue, MMS, to D. Sustala, BP [BPEP_ABB_00085724 to BPEP_ABB_00085727] (Attach. A, Ex. 79).

[176] Professional Engineering Statement (Item 5) [BPEP_ABB_00085234] (Attach. A, Ex. 80).

Id. (emphasis added).[177] BP never submitted the second certification statement verifying that the installation of the mechanical and electrical systems of the Atlantis Facility was in accordance with the approved designs.[178]

On May 3, 2007, MMS approved the Atlantis production safety system pursuant to 30 C.F.R. § 250.802(e), stating, "we hereby approve the following: 1. Design and installation of the production equipment and subsea systems with all attendant controls."[179] The May 5, 2007 letter from MMS to BP was the final formal approval from the agency allowing BP to commence oil and gas production from the field.[180]

4. The Designs for the Atlantis Mechanical and Electrical Systems Were Not Approved By Registered Professional Engineers.

a. A Texas Registered Professional Engineer Who Approves an Engineering Document Must Seal the Document.[181]

All fifty states and the District of Columbia regulate the practice of engineering.[182] Such regulation typically includes the licensing of engineers as

---

[177] The body of the Feb. 2005 Letters and the Aug. 2005 Letter also include the following certification: BP certifies that the designs for the mechanical and electrical systems to be installed were completed under the supervision of registered professional engineers. Feb. 23, 2005 Letter from D. Sustala, BP, to Michael Saucier, MMS [BPEP_ABB_01598219 to BPEP_ABB_01598220] (Attach. A, Ex. 81); Feb. 25, 2005 Letter [BPEP_ABB_00084533 to BPEP_ABB_000843534] (Attach. A, Ex. 82); Aug. 1, 2005 Letter [BPEP_ABB_00084932 to BPEP_ABB_00084933] (Attach. A, Ex. 83). BP's Regulatory Coordinator testified that he considered the certifications to be equivalent to the official Professional Engineering Statement certification. Dep. of D. Sustala, May 10, 2011 (BP) at 84:16-85:21 (Attach. A, Ex. 28).

[178] Domangue (MMS), testified that he did not require submission of the second sentence of the certification statement because of the MMS preproduction inspection. Dep. of B. Domangue (MMS) at 70:5-71:16 (Attach. A, Ex. 4).

[179] May 3, 2007 Letter from B. Domangue, MMS, to D. Sustala, BP [BPEP_ABB_00085724 to BPEP_ABB_00085727] (Attach. A, Ex. 79).

[180] Dep. of B. Domangue (MMS) at 83:1-85:1 (after MMS issued formal approval of production safety system, BP could commence production; calling the preproduction inspection requirement in the approval letter a "misnomer" because he had already conducted his inspections before issuing the permit approval) (Attach. A, Ex. 4).

[181] Note that BP certified that the designs were approved by "registered professional engineers *licensed in the state of Texas*." Professional Engineering Statement (Item 5) [BPEP_ABB_00085234] (Attach. A, Ex. 80).

[182] *The Professional Engineering* at 27-29 (Nat'l So. Prof. Eng. July 2007) (Attach. A, Ex. 84); *see* Decl. of G. Stevick at ¶16 (Attach. D).

"registered professional engineers" or the equivalent.[183] It is illegal for anyone who is not a Texas registered professional engineer to engage in the practice of engineering in the State of Texas.[184]

The Texas Engineering Practices Act requires that a Texas registered professional engineer obtain a seal "in a design authorized by the Board, showing the license holder's name and the legend "Licensed Professional Engineer" or "Registered Professional Engineer." TEX. OCC. CODE § 1001.401 (Use of Seal). Prior to September 1, 2005, Texas law required that "[a] plan, specification, plat, or report issued by a license holder must include the license holder's seal placed on the document." Act of May 22, 2001, 77th Leg., ch. 1421, § 1, 2001 Tex. Gen. Laws 4570, 4587 (previously codified as TEX. OCC. CODE § 1001.401(b)). The purpose of the seal is to "assure the user of the engineering product that the work has been performed or directly supervised by the professional engineer named and to delineate the scope of the engineer's work." 22 TEX. ADMIN. CODE § 137.33(a).[185]

Texas registered professional engineers:

---

[183] *See, e.g.,* Texas Engineering Practices Act, TEX. OCC. CODE § 1001.301 *et seq.*; Rules Concerning the Practice of Engineering and Engineering Licensure, 22 TEX. ADMIN. CODE § 137.1; LA. R.S. 37:681 & 682(10); CAL. BUS. & PROF. CODE § 6735.5; NEV. REV. STAT. § 625.520; UTAH CODE § 58-22-601.

[184] "(c) The legislature intends that:

(1)the privilege of practicing engineering be entrusted only to a person licensed and practicing under this chapter;

(2) only a person licensed under this chapter may:

(A) engage in the practice of engineering;

(B) be represented in any way as any kind of "engineer"; or

(C) make any professional use of the term "engineer"; and

(3) this chapter will be strictly complied with and enforced."

TEX. OCC. CODE § 1001.004(c); *see* TEX. OCC. CODE § 1001.301 (License Required). The practice of engineering is defined to mean public or private service or creative work requiring special knowledge of the mathematical, physical, or engineering sciences. *See* TEX. OCC. CODE § 1001.003(b); *see also id.* at § 1001.003(c) (listing tasks included within the practice of engineering).

[185] *See also* Decl. of Glen Stevick at ¶17 (Attach. D).

> shall only seal work done by them, performed under their direct supervision . . . or shall be standards or guideline specifications that they have reviewed and selected. Upon sealing, engineers take full responsibility for that work.

22 TEX. ADMIN. CODE § 137.33(b). "Direct supervision" is defined as:

> The control over and detailed professional knowledge of the work prepared under the engineer's supervision. The degree of control should be such that the engineer personally makes engineering decisions *or personally reviews and approves proposed decisions prior to their implementation*. The engineer must have control over the decisions either through physical presence or the use of communications devices.

22 TEX. ADMIN. CODE § 131.81(10) (emphasis added). Requiring application of a seal upon issuance of a design drawing is consistent with the Texas Engineering Practice Act's stated purpose to "fix responsibility for work done or services or act performed in the practice of engineering." TEX. OCC. CODE § 1001.004(b)(3).

A Texas Attorney General opinion issued in December 2004 confirmed this broad sealing requirement, requiring a Texas registered professional engineer to seal his design plans for an offshore platform to be constructed in Norway and erected in international waters. Tex. Att'y Gen. Op. No. GA-0287 (2004), 2004 WL 2980275 (Tex. A.G.). The Texas Attorney General found that despite the ultimate location of the construction or placement of the offshore platform, the registered professional engineer was required to seal his designs by Texas law. *Id.*

In response to the Attorney General's opinion, the Texas legislature amended the language of the sealing requirement, effective September 1, 2005, to provide that

> A plan, specification, plat, or report issued by a license holder for a project to be constructed or used in this state must include the license holder's seal placed on the document. A license holder is not required to use a seal required by this section if the project is to be constructed or used in another state or country.

TEX. OCC. CODE § 1001.401(b)(2006). The Texas legislature arguably intended the amendment to "reduce difficulties when Texas engineering documents are used for outside projects and must likewise be sealed by the other state." *See House Comm. on Licensing & Admin. Procedures*, Bill Analysis, Tex. C.S.H.B. 1817, 79th Leg., R.S. (2005).

The amended language cannot be understood to exempt the Atlantis from sealing requirements. Atlantis was constructed in Ingleside, Texas and is being used in federal waters.[186] It was not constructed in another state or country; it is not being used in another state or country. Moreover, the engineering drawings on which BP's production safety system certification was based are dated prior to the September 2005 effective date of that amendment. Indeed, BP's production safety system certification statement was submitted to MMS on August 1, 2005. Accordingly, any Texas registered professional engineer who claims to have certified the Atlantis drawings was required by law to apply his professional engineer seal or stamp to fix responsibility for the work done.

b. None of the Designs for the Production Safety System Bear the Stamp or Seal of an Individual Registered Professional Engineer.

Despite the requirements of Texas and other states, none of the designs for the Atlantis production safety system bear the stamp or seal of a registered professional engineer. As part of its Atlantis production safety system permit application, BP submitted 522 design drawings to MMS in the following categories:

2006-09-18 PSS-14 Vol 1 Amended SAFD, Rev 4

[186] Dep. of L. Osborne (Mustang) at 32:3-11 (Attach. A, Ex. 53); Dep. of W. Naseman (BP) at 41:6-14 (Attach. A, Ex. 15); Dep. of F. Ragan, Sept. 8, 2011 (BP) at 51:6-9; 56:18-25 (Attach. A, Ex. 46); Dep. of K. Dejohn (BP) at 42:2-22 (Attach. A, Ex. 29).

2005-02-25 PSS-2 Vol 1	SAFD, Rev 1
2005-08-01 PSS-5 Vol 2	Safety Plan
2005-08-01 PSS-5 Vol 2	Hull Drawings
2005-08-01 PSS-5 Vol 2	Topsides Layouts
2005-08-01 PSS-5 Vol 2	Hull Layouts
2005-08-01 PSS-5 Vol 2	Safety Plans Topside
2005-08-01 PSS-5 Vol 2	Safety Plans Hull
2005-08-01 PSS-5 Vol 2	Topsides Elec One Lines
2005-08-01 PSS-5 Vol 2	Hull Elec One Lines
2005-08-01 PSS-5 Vol 2	Topsides Haz Area Class Plans
2005-08-01 PSS-5 Vol 2	Hull Haz Area Class Plans
2005-02-25 PSS-3 P&IDs	SAFE Chart P&IDs & Others

Of the 522 drawings submitted with the application, none (0%) was marked with the seal or stamp of a registered professional engineer.[187]

Mustang, through its designated corporate representative Osborne, testified that the initials that appear on drawings could be persons with engineering degrees or designers.[188] In fact, 90% of the persons whose initials appear in the "engineer" block are not Texas registered professional engineers.[189] Ninety-seven percent of the persons whose initials appear in the "approved" block are not registered professional engineers.

MMS's review of information submitted by BP during the agency's investigation supports the conclusion that the designs for the Atlantis mechanical and electrical systems were not approved by registered professional engineers. In its letter of July 21, 2010, MMS required BP to "provide a list of all registered professional engineers associated with the [production safety system] certification, including contact information."[190] BP's August 9, 2010 letter purported to submit a list of registered

[187] Decl. of Mike Sawyer at ¶ 11 (Attach. C)
[188] Dep. of L. Osborne (Mustang) at 172:7-18 (Attach. A, Ex. 53).
[189] Decl. of Mike Sawyer at ¶ 12 (Attach. C).
[190] July 21, 2010 Letter from M. Saucier (MMS) to S. Todd (BP) [BPEP_ABB_00082829 to BPEP_ABB_00082830] (Attach. A, Ex. 19).

professional engineers associated with BP's certification.[191] Upon review, MMS noted that none of the initials in the revision blocks of the drawings or the professional engineer stamps on the drawings seem to match the professional engineers BP provided on the list."[192]

A review of the list of engineers provided by BP clearly shows that not one of the engineers on the list initialled or stamped the drawings produced to MMS. Of the engineers listed, four (4) had incorrect professional engineering information, two of the Texas professional engineering license numbers do not exist, and one engineer had his license granted in 2009, well after the August 1, 2005 certification.[193] Osborne testified that he did not prepare the list of engineers submitted by BP to the agency and he did not know if it was verified or if anyone at Mustang reviewed the list before BP sent it.[194]

c. BP's Contractors Admit No Registered Professional Engineer Approved the Designs For The Mechanical and Electrical Systems of the Atlantis Production Safety System.

Mustang designed the topsides portion of the production safety system.[195] Although Osborne (who is not a registered professional engineer) was identified by Mustang as responsible for gathering registered professional engineer certification for the designs for the Atlantis mechanical and electrical systems, he was not able to identify any registered professional engineer who approved any part of the production

[191] August 9, 2010 Letter from S. Todd (BP) to M. Saucier (MMS) [BPEP_ABB_00115564 to BPEP_ABB_00115566] (Attach. A, Ex. 20).
[192] August 31, 2010 Email from B. Domangue (MMS) to S. Todd (BP) [BPEP_ABB_00082852 to BPEP_ABB_00082854] (Attach. A, Ex. 85).
[193] Decl. of Mike Sawyer at ¶ 13 (Attach. C).
[194] Dep. of L. Osborne (Mustang) at 138:24-140:16 (Attach. A, Ex. 53).
[195] *Id.* at 48:21-24; 58:7-14.

safety system.[196] He testified that no individual registered professional engineer approved the designs for the mechanical and electrical systems that make up the production safety system for the topsides.[197] No individual registered professional engineer at Mustang has taken professional responsibility for the engineering designs. Further, Osborne testified that there would be cases where an individual registered professional engineer would not have any supervisory role in particular drawings and that acquiring professional engineer stamps would take extra time and cost additional money.[198] He agreed that a drawing without a stamp or seal has not been approved by a registered professional engineer "as a professional engineer."[199]

Ragan, the team leader for the development of the controls systems, which control the safety shutoff valves and are a part of the production safety system, testified that he is not aware of any registered professional engineer having approved the Atlantis mechanical and electrical systems either orally or in writing.[200] Ragan is not himself a registered professional engineer, but Ragan was responsible for designing the Atlantis control systems and preparing the SAFE chart and the logic contained therein.[201] The SAFE chart and shutdown safety logic drawings document the shutdown logic, which is the hierarchical logic in an electrical controller that, given a

---

[196] *Id.* at 28:20-21; Jan. 29, 2004 Email from R. Phillips to D. Sustala, J. Hart, and L. Osborn [BPEP_ABB_00110518 to BPEP_ABB_00110519] (Attach. A, Ex. 86).
[197] Dep. of L. Osborne (Mustang) at 61:15-66:22; 137:17-25; 140:8-16; 146:1-11 (Attach. A, Ex. 53).
[198] *Id.* at 134:15-137:8; 150:4-151:6; 152:20-23.
[199] *Id.* at 112:14-113:9.
[200] Dep. of F. Ragan, Sept. 8, 2011(BP) at 57:22-61:4; 87:3-9; 138:12-20; 90:10-91:13 (Attach. A, Ex. 46); *see also* Dep. of J. Upchurch (Technip) at 114:7-15 (Attach. A, Ex. 50). Ragan's knowledge is BP's knowledge. He was a Mustang employee contracted by BP to perform the service of representing BP's interest on the controls. He is now a BP employee. *See* Dep. of F. Ragan, Sept. 8, 2011 (BP) at 33:8-16; 39:5-41:6 (Attach. A, Ex. 46).
[201] Dep. of F. Ragan, Sept. 8, 2011 (BP) at 14:2-15:12; 170:5-12; 171:4-10 (Attach. A, Ex. 46).

certain input, will execute electrical and mechanical orders to make the facility safe. [202] Specifically, the electronic controller processes a given input to output electronic signals that are then transmitted electrically to mechanical equipment that causes the shutdown valves to close mechanically.[203] Ragan testified that he could not recall any specific individuals on the controls team who were registered professional engineers.[204]

Technip designed the subsea portion of the Atlantis production safety system.[205] Its designated corporate representative, Upchurch, testified that if a drawing is missing a stamp, then that drawing lacks professional engineering approval.[206] He also testified that there were no professional engineer requirements under Technip's Atlantis contract with BP.[207] Further, he stated that designers and drafters would have initialed the drawings they prepared, and that such initials are not the equivalent of professional engineer stamps or seals.[208]

DSME designed the portions of the production safety system located in the hull, and DMSE employees could not approve the mechanical and electrical systems as registered professional engineers.[209]

---

[202] Dep. of R. Peloubet (BP) at 48:10-49:13 (Attach. A, Ex. 41).
[203] *Id.* at 183:19-187:23; Dep. of F. Ragan, Sept. 8, 2011 (BP) at 97:4-16 (Attach. A, Ex. 46); System Certification Package, 1440-35-SB-SP-3033_ATS_SIC_Rev0.doc, page 29 (contained within TS Subsea Control System 956, Document Number: 1440-20-CM-PR-956-8001 [BPEP_ABB_00854373]) (Attach. A, Ex. 87).
[204] Dep. of F. Ragan, Sept. 8, 2011 (BP) at 80:13-22 (Attach. A, Ex. 46).
[205] Dep. of J. Upchurch (Technip) at 139:18-140:25 (Attach. A, Ex. 50).
[206] *Id.* at 86:10-12; 137:2-12.
[207] *Id.* at 82:24-83:7.
[208] *Id.* at 27:24-28:24.
[209] Dep. of F. Ragan, Sept. 8, 2011 (BP) at 54:1-55:16; 57:22-61:4 (Attach. A, Ex. 46).

d. BP Made No Effort To Verify that Its Certification Was True.

Sustala testified that he made no effort to determine whether the certification statement regarding the Atlantis mechanical and electrical systems was true. Sustala never checked with BP's contractors to determine whether registered professional engineers had in fact approved the systems, and he did not look for professional engineer stamps on the drawings submitted to the agency.[210] He testified that he relied on Dejohn (BP), not a registered professional engineer, who gave Sustala the unsigned, typed certification statement on BP letterhead to include in the submission to MMS.[211] Sustala testified that he had no reason to believe the certification statement came from BP's engineering contractors.

Sustala clearly understood that Texas law required a professional engineer who approves a design to apply his seal to that design. Sustala attempted to convince BP to apply for a waiver for the DSME work on the hull that concerned the mechanical and electrical systems.[212] Again, Sustala knew that DSME could not approve their designs as registered professional engineers. He was told simply to have the operations manager (Dejohn) submit a letter to MMS with the certification, which Sustala knew could not be true. BP's regulatory coordinator on Thunder Horse[213] was irritated by Sustala's confusion about this practice stating,

> Come on Dennis, I don't want to go back and forth on hthis [sic]. The reg says "certification that the design for the mechanical and electrical systems to be installed were approved by resgitered [sic] professional

[210] Dep. of D. Sustala, May 10, 2011 (BP) at 89:24-90:16 (Attach. A, Ex. 28).
[211] *Id.* at 87:7-88:5; 118:11-121:6.
[212] March 24, 2004 Email from D. Sustala (BP) to S. Kinnaman (Mustang) [BPEP_ABB_00110497 to BPEP_ABB_00110499] (Attach. A, Ex. 88).
[213] Thunder Horse is another BP deepwater floating production facility in the Gulf of Mexico.

> engineer", so the letter certifies just that. The reg does not mention stamping.[214]

Although the regulation itself does not state that a professional engineer's stamp or seal must be on the designs, a lessee must have an affirmative basis for making the certification statement in order to obtain billions of dollars worth of government-owned oil and gas. Setting aside the issue that "[a] professional engineer licensed in Texas must place his seal on engineering plans, specifications, plats, and reports prepared under authority of his Texas license,"[215] "approve" means "to give formal or official sanction to."[216] BP had no basis for making the certification that registered professional engineers had given formal or official sanction to the mechanical and electrical systems to be installed in the Atlantis, and, at least with respect to the work done by DSME, affirmatively knew the certification was false. Indeed, BP's Todd refused to answer the direct question, "[d]id a professional engineer approve the mechanical and electrical systems of the Production Safety System?"[217]

e. MMS Accepted the Certification Submitted Without Further Inquiry.

Domangue (MMS) testified that he understood that the presence of professional engineering stamps on the drawings would have been self-proving, but he was trained not to go beyond the certification statement submitted by an applicant.[218] He testified that he made no inquiry into whether the initials on the drawings submitted were the

---

[214] March 25, 2004 Email from D. Sustala (BP) to A. Laplante (BP) [BPEP_ABB_05211191 to BPEP_ABB_05211193] (Attach. A, Ex. 89).
[215] Tex. Att'y Gen. Op. GA-0287 (Tex. A.G.), 2004 WL 2980275 (Tex. A.G.).
[216] MERRIAM-WEBSTER'S COLLEGIATE DICT. (10th Ed. 1999); *see also* BLACK'S LAW DICT. (9th ed. 2009) ("approve" is defined as "[t]o sanction officially; to ratify; to confirm;").
[217] Dep. of S. Todd, Dec. 5, 2011 (BP) at 290:18-293:8 (Attach. A, Ex. 30).
[218] Dep. of B. Domangue (MMS) at 180:4-13; 182:16-20 (Attach. A, Ex. 4).

initials of professional engineers.[219] Indeed, when he learned for the first time during his deposition that the SAFE chart, which he described as the "road map that indicates the manner in which the platform will cease production as a result of a detected abnormal condition on board or associated with the subsea production," was not prepared by professional engineers, he asked, "under what auspices did BP issue this statement if these weren't registered professional engineers?"[220]

Domangue testified that it is hard to tell whether the drawings submitted with the production safety system application were stamped by registered professional engineers, but he knew the SAFE chart, the process flow diagrams, the safety equipment layouts, and the electrical one-line diagrams were not stamped or sealed.[221] He never told anyone at BP that they needed professional engineer stamps on the drawings submitted with the application.[222] Domangue is not a registered professional engineer, and he was never trained by MMS regarding state laws that require a professional engineer who approves a design to apply his seal or stamp.[223] While Domangue might not be aware of Texas law, he unequivocally believed that the subpart H certification statement had to be true.[224] In other words, the designs for the mechanical and electrical systems to be installed in the Atlantis had to be approved by registered professional engineers. Moreover, "it is a matter of law for the court to interpret a relevant statutory or regulatory requirement and if the language of the

[219] *Id.* at 186:6-189:2.
[220] *Id.* at 189:3-14; 255:2-258:18.
[221] *Id.* at 73:13-75:1.
[222] *Id.* at 78:11-17.
[223] *Id.* at 154:12-15; 161:6-14.
[224] *Id.* at 177:14-178:10.

requirement is clear, even expert testimony is not persuasive." *UMC Elecs. Co.*, 43 Fed. Cl. at 794 (*citing United States v. Race*, 632 F.2d 1114, 1120 (4th Cir. 1980)).

f. An Engineering Firm Cannot Approve Designs As A Registered Professional Engineer.

BP claims that designs issued by an engineering company registered with the State of Texas can be considered "approved" by a registered professional engineer, *i.e.*, the company itself.[225] Contrary to BP's claims, only an individual licensed professional engineer–*i.e.*, a person–may approve or certify an engineering design.[226] An engineering firm registered with the state is not a registered professional engineer.[227]

Under Texas law, a firm is entitled to register as an "engineering company" so long as it has registered professional engineers on its payroll, and the company then becomes entitled to offer its engineering services to the public.[228] But the company itself does not become a licensed engineer and is not listed as such by the State Board of

[225] Dep. of K. Dejohn (BP) at 19:17-23:10 (Attach. A, Ex. 29); *see* Dep. of L. Osborne (Mustang) at 41:12-43:19; 115:9-117:15 (Attach. A, Ex. 53).

[226] *See* TEX. OCC. CODE § 1001.301(a) (only individuals licensed under chapter 1001 may practice engineering in the State of Texas); *id.* at 1001.401(a) (each licensed engineer holds a Board-designed seal showing the licensee's name and the legend "Licensed Professional Engineer" or "Registered Professional Engineer"); *id.* at § 1001.401(b) (requiring an engineer to seal, as well as sign, each "plan, specification, or report" that the engineer issues).

[227] *See*, *e.g.*, *id.* at § 1001.405(e)(3) ("Each service, work or act performed by the business entity that is part of the practice of engineering is either personally performed by an engineer or directly supervised by an engineer who is a regular full time employee of the business entity."); LOUISIANA RULES, 46 LA ADC Pt LXI, § 2701(A)(4)(a)(i) ("Firms are not authorized to possess seals."); NEV. REV. STAT. § 625.407 ("All engineering or land-surveying work done at a place of business must be performed under a professional engineer or professional land surveyor, respectively, who has been placed in responsible charge of the work and who is employed full-time at that particular place of business."); NEVADA RULES, NAC 625.610 ("Each licensee shall validate a stamp or seal by signing his name legibly in opaque ink across the face of the impression made by the stamp or seal…"); CAL. BUS. & PROF. CODE § 6732 ("It is unlawful for anyone other than a professional engineer licensed under this chapter to stamp or seal any plans, specifications, plats, reports, or other documents with the seal or stamp of a professional engineer."); UTAH CODE § 58-22-603 ("A professional engineer or professional structural engineer may only affix the licensee's seal….").

[228] TEX. OCC. CODE. § 1001.405(b) (requiring business entities that engage in the practice of engineering to register with the Board); *id* at § 1004.405(c) (To register, a business entity annually must complete an application listing, among other things, "the name and address of each officer or director . . . and each engineer who engages in the practice of engineering on behalf of the business entity.").

Engineering.[229] The licensing of an engineer as a registered professional engineer is limited to individuals.[230]

The Texas Attorney General has issued an opinion stating that, "[p]roperly sealed documents issued by an engineer employed by an unregistered firm are not invalid under that Act." Tex. Att'y Gen. Op. GA-0274 (2004), 2004 WL 2678848 (Tex. A.G.). The Attorney General noted that "[s]eals carry with them the [engineer's] representation of personal accountability independent of any employment contract with [his or her] employer." *Id.* (internal citations omitted). Osborne (Mustang) admitted that no professional engineer has taken full professional responsibility for designs for the mechanical and electrical systems of Atlantis, which is the very purpose of the subpart H certification requirement.[231]

When asked whether Technip, would "review the drawings of another contractor . . . to approve those drawings such that they could be stamped with a professional engineering stamp . . . ," Upchurch replied unequivocally,

> No**.** Under PE guidelines identified by the State of Texas, the PE stamps can only be applied by *personnel who were materially engaged in the execution of the work.* So it's not permissible for a PE to simply review someone else's work and stamp it.[232]

---

[229] *See* 22 TEX. ADMIN. CODE § 133.11 ("The board shall receive, evaluate and process all applications for licenser as a professional engineer received from individuals.").
[230] *See, e.g.*, TEX. OCC. CODE § 1001.002 **(**defining "Engineer" as a "person licensed to engage in the practice of engineering in this State"); LA. R.S. 37:682(4) ("'Engineer' or 'professional engineer' shall mean an individual . . . ."); CAL. BUS. & PROF. CODE § 6701 ("'Professional engineer,' within the meaning and intent of this act, refers to a person…"); NEV. REV. STAT. § 625.060 ("'Professional engineer' means a person who by reason of his or her professional education and practical experience is granted a license by the Board to practice professional engineering."); UTAH CODE § 58-22-102 ("'Professional engineer' means a person licensed under this chapter as a professional engineer.").
[231] Dep. of L. Osborne (Mustang) at 112:14-113:9; 140:8-16 (Attach. A, Ex. 53).
[232] Dep. of J. Upchurch (Technip) at 135:9-136:18 (Attach. A, Ex. 50).

Additionally, a seal by a registered professional engineer typically must be an approved state seal image with the individual registered professional engineer's name and license number. Technip's BP Well Integration and Design Engineering Atlantis Sealing Plan, dated January 7, 2004, follows this standard, defining "Seal or Stamp" as a "raised impression, permanent ink printed or computer generated representation of an approved State seal image, providing the *Professional Engineer's name* and registration/license information.[233]

g. BP Acted in Deliberate Ignorance By Submitting Its Production Safety System Certification Without Confirming Its Truthfulness.

Sustala knew that the subpart H certification statement was false for the work DSME performed. If Sustala had made even a modest inquiry, then he would have discovered that the certification statement for the Mustang and Technip work also was false. Sustala knew that the drawings he submitted with the production safety system permit application did not have professional engineer stamps on them, as did Dejohn.[234] Dejohn also testified that no one at Mustang ever provided BP anything in writing certifying the Atlantis mechanical and electrical systems.[235] In fact, as the person who managed the contract with Mustang, Dejohn knew that Mustang employed designers with computer-aided design training who actually created the drawings and persons with engineering degrees who billed at lower rates than senior engineers.[236] Courts have found that an FCA defendant acts in deliberate ignorance or reckless

---

[233] BP Well Integration and Design Engineering Atlantis Sealing Plan § 3.3 [T-USA0001407 at T-USA0001419] (Attach. A, Ex. 90).
[234] Dep. of D. Sustala, Sept. 19, 2011 (BP) at 191:12-16 (Attach. A, Ex. 21); Dep. of K. Dejohn (BP) at 94:15-95:2 (Attach. A, Ex. 29).
[235] Dep. of K. Dejohn (BP) at 107:7-108:4 (Attach. A, Ex. 29).
[236] *Id.* at 103:23-106:16.

disregard when he fails to make a minimal examination of the records that support his claim. *See Farmer*, 523 F.3d at 348 (*citing UMC Elecs. Co.*, 43 Fed. Cl. at 794); *United States v. Krizek*, 111 F.3d 934, 942 (D.C. Cir. 1997); *United States v. Lorenzo*, 768 F. Supp. 1127, 1131-32 (E.D. Pa. 1991).

5. BP's False Certification Was Material to the Production Safety System Permit Approval.

Before conducting activities under its Exploration Plan or its Development Operations Coordinations Document, BP was required to obtain approval of the Atlantis Production Safety System. 30 C.F.R. § 250.281. The subpart H regulations required that BP submit a permit application containing, among other things, a: "5) Certification that the design for the mechanical and electrical systems to be installed were approved by registered professional engineers." *Id.* at § 250.802(e)(5). The regulations expressly state that "[p]roduction ***shall not commence*** until the production safety system has been approved and a preproduction inspection has been requested by the lessee." 30 C.F.R. § 250.800(a) (emphasis added).

Domangue, the MMS petroleum engineer who approved the production safety system permit testified that he was trained to follow the applicable statutes and regulations in the permit process and that, until he was satisfied that an applicant had complied with subpart H, he would not approve the permit.[237] He testified that when he issued the Atlantis permit approval, MMS had the statement from BP certifying that registered professional engineers had reviewed and approved the systems.[238] He testified further that he always looks for the certification statement in a permit

[237] Dep. of B. Domangue (MMS) at 158:19-23; 71:8-16 (Attach. A, Ex. 4).
[238] *Id.* at 67:6-20.

application, and that he would not have issued the permit if he had known the certification was false.[239] Therefore, BP's false certifications were material to the government's decision to permit BP to install Atlantis.

C. DAMAGES ARE EQUAL TO THE ATLANTIS FIELD RESERVES VALUE.

1. Introduction

The United States is entitled to damages equal to the value of the oil and gas BP obtained because of the false permit applications. Based on BP testimony and relevant documents, the value of historical production through December 31, 2010 from the Atlantis field is $7,852.65 million.[240] The value of the proved reserves not yet produced as of December 31, 2010 is $17,863.90 million.[241] The sum of the historical production and proved reserves is $25,716.55 million and is, without dispute, the minimum value of the oil and gas reserves of the Atlantis field. The contested permits granted BP access to all the oil and gas reserves on the five unitized leases that make up the Atlantis field, using the approved installations.

Should this Court order remediation of the Atlantis or revoke BP's leases, then the appropriate damage value is historical production – trebled – minus royalty payments already submitted to the government. Absent an injunction, the United

---

[239] *Id.* at 175:13-22; 177:14-178:10.

[240] *See* Decl. of Scott Bayley for reserve values (Attach. E).

[241] BP has three reserve categories: (1) proved reserves; (2) probable reserves; and (3) contingent resources. Dep. of D. Elmer (BP) at 34:13-35:10 (Attach. A, Ex. 91). BP is required, for their financial filings with the Securities and Exchange Commission, to provide an estimate of proved resources. *Id.* at 36:20-37:18. Proved resources are those that BP has a high confidence are there, usually based on an appraisal well. BP's corporate representative testified that the sum of proved reserves plus probable reserves is the most likely number that could be above or below actual oil and gas recovery. *Id.* at 41:13-44:16. For the purposes of this motion, Plaintiffs assess damages to the United States as the sum of historical production and proved reserves; there can be no factual dispute that BP has gained the benefit of the proved reserves. However, the true value of the Atlantis field includes both probable reserves and contingent resources as well.

States is entitled to damages equal to the sum of the historical production and proved reserves – trebled – minus royalty payments.

2. Statutory Basis for Damages

An individual who violates the FCA is liable to the United States for civil penalties of "not less than $5,000 and not more than $10,000, plus 3 times the amount of damages which the Government sustains because of the act of that person." *See* 31 U.S.C. § 3729(a); *see also Cook Cty., Ill. v. United States ex rel. Chandler*, 538 U.S. 119, 120 (2003) (discussing the treble damages provision). A purpose of the multiple damages provision of the FCA is to make the Government whole for its losses. *United States ex rel. Marcus v. Hess*, 317 U.S. 537, 551-52 (1943). To satisfy this purpose, each FCA case requires an individualized approach to calculating damages; "[n]o single rule can be, or should be, stated for the determination of damages under the Act." *Unites States v. Killough*, 848 F.2d 1523, 1532 (11th Cir. 1988) (quoting S. Rep. No. 615, 96th Cong., 2d Sess. at 4).

3. The Government Can Recover As Actual Damages The Value Of The Oil and Gas BP Obtained Because Of The False Permit Applications.

The Fifth Circuit has held that damages are limited to the amount that was paid out by reason of the false claim. *Aerodex,* 469 F.2d at 1011. More recently, the Fifth Circuit held that in FCA cases, "where there is no tangible benefit to the government and the intangible benefit is impossible to calculate, it is appropriate to value damages in the amount the government actually paid to the Defendants." *Longhi*, 575 F.3d at 473.

The *Longhi* court found that the United States received no tangible benefit from a fraudulently induced research grant. *Id.* The government had not ordered a specific

product or good under a standard procurement contract, and the end product did not belong to the United States. *Id.* Instead, the purpose of the grant program was to enable small businesses to reach a phase where they could commercially market their products, and the benefit to the government was to award money to eligible, small, deserving businesses. *Id.* The court found that the "intangible benefit of providing an 'eligible deserving' business with the grants was lost as a result of the Defendants' fraud" and held that the district court appropriately valued damages in the amount the government actually paid to the Defendants. *Id.*

Here, BP submitted two false permit applications to install the Atlantis platform and production safety system, both prerequisites to producing oil and gas. Judge Hoyt held that BP received in the bargain, "critical government permits that effectuate[d BP's] right to drill for and develop oil from a federal lease. . . " *Abbott*, 781 F. Supp. 2d at 464. Judge Hoyt stated that, "Unless and until the permit process was satisfied, BP did not have the lawful right to drill for, or extract, any oil or gas." *Id.* at 466. Prior to the permit approvals, BP's rights under the lease contracts "amounted primarily to an opportunity to try to obtain exploration and development rights in accordance with the procedures under the standards specified in the cross-referenced statutes and regulations." *Mobil Oil*, 530 U.S. at 620-21.

What the government is supposed to gain through the permit process is the assurance that all production facilities are "designed, installed, and maintained in a manner which provides for efficiency, safety of operation, and protection of the environment," 30 C.F.R. § 250.802(a), and all platforms and related structures are

designed, fabricated, used, maintained, inspected, and assessed, "so as to ensure their structural integrity for the safe conduct of drilling, workover, and production operations," 30 C.F.R. § 250.900(a). Where a lessee falsely certifies that they have obtained the required engineering approvals and maintain the required documentation for the installations, the "intangible benefit of [the permit process] was lost as a result of Defendants' fraud," and "it is appropriate to value damages in the amount the government actually paid to the Defendants," *Longhi*, 575 F.3d at 473, *i.e.*, the value of the oil and gas obtained.

Longhi and other decisions support the finding that where the government receives no value from a bargain, whether the intended intangible benefit was vitiated by a false claim or whether the goods or services received by the government were so deficient as to be worthless, the proper measure of damages is the amount the government paid as a result of the false claim. For example, in *United States v. Rogan*, 517 F.3d 449 (7th Cir. 2008), the Seventh Circuit held that where the government offers a subsidy with conditions, and those conditions are not satisfied, nothing is due. The appropriate measure of damages in such circumstances is the entire amount received on the fraudulent claims. *Id.* at 453. In addition, the Ninth Circuit in *United States v. Mackby*, 339 F.3d 1013 (9th Cir. 2003), ruled that the fact that the defendant's clinic actually performed the physical therapy for which he falsely claimed reimbursement under Medicare does not limit the government's injury. *Id.* at 1018-19. The court noted that, "[i]n the legislative history to the FCA, Congress specifically rejected a 'no harm, no foul argument.'" *Id.* at 1019. The court went on to state that, "[t]he government has

a strong interest in preventing fraud, and the fraud of such false claims extends beyond the money paid out of the treasury." *Id.* (citing *United States ex rel. Rosales v. San Francisco Housing Auth.*, 173 F. Supp. 2d 987, 1019-20 (N.D. Cal. 2001) (discussing Congress's purpose in the FCA to maintain public confidence in the government by protecting against fraud)).

Further, in *United States v. TDC Management Corp., Inc.*, 288 F.3d 421 (D.C. Cir. 2002), the D.C. Circuit held that the district court did not err in adopting a "but for" measure of damages based on what the government would have paid out had it known the information that TDC omitted from its monthly progress reports. *Id.* at 428. The court stated that, "[o]nce TDC deviated from its contracted role as impartial ombudsman by seeking a financial stake in joint ventures with private investors and by charging fees for the provision of material assistance to minority entrepreneurs, the district court then could properly find that the Program no longer had any value to the government." *Id.* The court noted that the Program at issue did not call for TDC to produce a tangible structure or asset of ascertainable value, as occurred in *Ab-Tech Construction, Inc. v. United States*, 31 Fed. Cl. 429 (Fed. Cl. 1994) (holding that the government had not received any loss where it received what it paid for–an automated data processing facility built in accordance with contract drawings and specifications) and *United States v. Woodbury*, 359 F.2d 370, 379 (9th Cir. 1966) (finding of no damages was not clearly erroneous where government got the mortgage it contracted for).

Moreover, the Sixth Circuit held that an award of government damages equalling the full contract price was appropriate where the brake shoe kits delivered to

the Army were completely valueless, not only because most of them did not meet the contract specifications, but also because none of them came with the quality assurance of a product that had been subjected to periodic production testing required by the contracts. *Compton*, 142 F.3d at 304.

Also, the District Court in *United States ex rel. Purcell v. MWI Corp.*, 520 F. Supp. 2d 158 (D.D.C. 2007), held that, "fraudulently induced government loans (even if repaid in full) are part of the original loss to the government." *Id.* at 179. The court relied on the D.C. Circuit's ruling in *TDC Mgmt.*, holding that, "[u]ltimately damages are measured based on what the government would have paid out had it known of the information that [the defendant] omitted." *Id.* at 178. The court noted that *Ab-Tech Construction,* on which Defendant's relied, "constitutes persuasive rather than controlling precedent" and that, "[s]uperior precedent instructs that causation is met where false statements are critical to eligibility for a loan or bear upon the likelihood of an applicant's meeting loan payments. When these conditions are present, it is likely that the entire amount of federal funds expended on a program would not have been spent." *Id.* at 178. (internal citations omitted). The court in *Purcell* held that, "Ex-Im's benefit of the bargain was inextricably intertwined with the fulfillment of its terms and representations (such as the disclosure certificate) of the bargain. Because this is what the defendants denied to Ex-Im, damages are appropriate." *Id.* at 179-80.

4. The United States Is Entitled to Treble Damages.

Before the government may recover treble damages, it must "demonstrate the element of causation between the false statements and the loss." *United States v. Miller*, 645 F.2d 473, 475-76 (5th Cir. 1981); *see United States v. Hibbs*, 568 F.2d 347, 351 (3d Cir.

1977). The Third and Fifth Circuits in these cases concluded that the submitter of a false claim should be liable only for those damages that arise because of the *falsity* of the claim, *i.e.*, only for those damages that would not have come about if the defendants' misrepresentations had been true. *See Miller*, 645 F.2d at 475-76; *Hibbs*, 568 F.2d at 351.

Here, if BP's permit applications had not been false, then the United States would not have "spent" its federal oil and gas reserves on useless assurances that the installations on the outer continental shelf were designed in a sound manner. The D.C. Circuit has found that if the government can show it relied on representations in a contractor's progress reports in deciding to make payments, "those payments may constitute damages under the Act." *United States ex rel. Schwedt v. Planning Research Corp.*, 59 F.3d 196, 200 (D.C. Cir. 1995). The court determined that its holding met the falsity test from the Third and Fifth Circuits above because if the contractor's misrepresentations had been true, then the payments would have been money well spent, not money spent on useless goods. Therefore, the entire payment fraudulently induced may constitute damages. Here, the government agent who reviewed the Atlantis Production Safety System application testified unequivocally that he relied on BP's false certification when he granted BP the critical permit and that he would not have issued the permit if he had know the certification was false.[242]

5. Royalty Payments on Produced Oil and Gas May Be Subtracted From the Trebled Damage Amount.

BP contends that the government suffers no damages from fraudulently acquired permits where a lessee continues to pay royalty payments for produced oil pursuant to

[242] Dep. of B. Domangue (MMS) at 67:6-20; 175:13-22; 177:14-178:10 (Attach. A, Ex. 4).

its lease provisions. As the United States pointed out earlier in this case, "BP does not merely overstate the importance of its lease, it also cheapens the importance of the permit application process." Doc. 69 at 13. Even if the Court were to conclude that BP had conferred a benefit on the government through royalty payments, the government's damages clearly are not zero, as BP suggests. Any benefit would be treated properly as an offset after trebling the full value of the improperly secured oil and gas. *See Longhi*, 575 F.3d at 469 n.11 *and United States v. Thomas*, 709 F.2d 968, 972 (5th Cir. 1983) (both citing *United States v. Bornstein*, 423 U.S. 303, 314 (1976) (superceded on different grounds)). Otherwise, defendants "would not have risked losing anything by [their] misconduct except for the illegal profit to which [they were] never entitled anyway, while had [they] never been brought to account for [their] fraud [they] would have been free to enjoy [their] unlawful gains with impunity." *Faulk v. United States*, 198 F.2d 169, 172 (5th Cir. 1952).

D. THE ATLANTIS SHOULD UNDERGO AN AGGRESSIVE AUDIT AND REPAIR OR BP'S LEASES SHOULD BE REVOKED.

1. Introduction

BP's OCSLA violations have created major process safety risks on Atlantis. The critical pressure relief valves are inadequate for service, posing the risk of oil and gas release and consequent fire or explosion. The production safety system controls on Atlantis do not comply with emergency shutdown logic as required by MMS and are plagued with numerous malfunctions which have resulted in repeated loss of well control. Indeed, wells are being run for months at a time without redundant electronic

communications to the wells. These are major dangers to safety and the environment and are a direct result from incomplete engineering.

The rules and regulations issued by the Secretary of the Interior under OCSLA "apply to all operations conducted under a lease issued or maintained under the provisions of [OCSLA]." 43 U.S.C. § 1334(a). Therefore, BP's regulatory violations[243] regarding Atlantis amount to statutory violations of OCSLA. The regulatory violations are also violations of the Atlantis leases, which are "conditioned upon compliance with regulations issued under [OCSLA]." 43 U.S.C. § 1334(b). BP's violations present an imminent risk of long term or irreparable harm to the Gulf of Mexico ecosystem for which there is no adequate remedy at law, and the operation of Atlantis should be enjoined until BP comes into compliance with the critical regulations. In the alternative, BP's leases should be forfeited and cancelled by this Court pursuant to 43 U.S.C. § 1334(d).

2. Plaintiffs Have Standing to Seek Injunctive Relief Under OCSLA.

Article III of the Constitution allows federal courts to decide only "actual cases or controversies," and "[t]he concept of standing is part of this limitation." *Simon v. E. Ky. Welfare Rights Org.*, 426 U.S. 26, 37 (1976); *see also Steel Co. v. Citizens for a Better Env't*, 523 U.S. 83, 102 (1998) ("Standing to sue is part of the common understanding of what it takes to make a justiciable case."). To meet the Article III requirements for standing, a plaintiff must demonstrate that: (1) it has suffered an "injury in fact" that is actual and imminent, not conjectural or hypothetical; (2) there is a causal connection between

[243] BP is in violation of, *inter alia*, 30 C.F.R. § 250.800; 30 C.F.R. § 250.802(a), (b), (e); 30 C.F.R. § 250.900(a), (b), (c)(2002); and 30 C.F.R. § 901(d) (2002); 30 C.F.R. § 250.803(b)(1); 30 C.F.R. § 250.803(b)(1)(i).

injury complained of and the challenged action; and (3) it is likely, as opposed to merely speculative, that the injury will be redressed by a favorable decision. *Lujan v. Defenders of Wildlife*, 504 U.S. 555, 560-61 (1992). Only one plaintiff, Abbott or FWW, need establish standing to satisfy Article III's case-or-controversy requirement. *See Massachusetts v. E.P.A.*, 549 U.S. 497, 518 (2007) ("Only one of the petitioners needs to have standing to permit us to consider the petition for review."); *Bowsher v. Synar*, 478 U.S. 714, 721 (1986); *Watt v. Energy Action Educ. Found.*, 454 U.S. 151, 160 (1981).

As an association, FWW may sue in its own right or on behalf of its constituents. To sue in its own right, FWW "must demonstrate that [it] has suffered injury in fact, including such concrete and demonstrable injury to [its] activities-with [a] consequent drain on [its] resources-constituting ... more than simply a setback to [its] abstract social interests." *Nat'l Taxpayers Union, Inc. v. United States*, 68 F.3d 1428, 1433 (D.C. Cir. 1995) (quotations and citations omitted). It is sufficient for standing purposes "that purported illegal action increases the resources the group must devote to the programs independent of its suit challenging the action." *Id.* (citing *Havens Realty Corp. v. Coleman*, 455 U.S. 363, 379 (1982)). To sue on behalf of its members, FWW may demonstrate standing as long as "its members would otherwise have standing to sue in their own right, the interests at stake are germane to the organization's purpose, and neither the claim asserted nor the relief requested requires the participation of individual members in the lawsuit." *Friends of Earth, Inc. v. Laidlaw Envtl. Serv. (TOC), Inc.*, 528 U.S. 167, 180-81 (2000) (internal citation omitted). For representational standing, FWW "must demonstrate that it has at least one member who . . . can

establish the elements of standing." *Friends of the Earth, Bluewater Network Div. v. U.S. Dept. of Interior*, 478 F. Supp. 2d 11, 17 (D.D.C. 2007). Here, FWW has demonstrated both organizational and representational standing.

a. Plaintiffs Will Be Injured if BP is Not Enjoined.

To meet the first prong for standing, the plaintiffs must "have a direct stake in the outcome." *Sierra Club v. Morton*, 405 U.S. 727, 740 (1972) (*superseded on other grounds*). The plaintiffs need to suffer harm to some aesthetic, environmental, or recreational interest. *Id.* at 734-35. "These injuries need not be large, an 'identifiable trifle' will suffice." *Public Interest Research Group of N.J., Inc. v. Powell Duffryn Terminals, Inc.*, 913 F.2d 64, 71 (3d Cir. 1990) (quoting *United States v. Students Challenging Regulatory Agency Procedures (SCRAP)*, 412 U.S. 669, 689 n. 14 (1973)). The Fifth Circuit has found the injury requirement satisfied when an organization, on behalf of its members, sought to prohibit the draining of several ponds. *See Save Our Comm. v. E.P.A.*, 971 F.3d 1155, 1160-61 (5th Cir. 1992). That organization asserted that "its members resided in the vicinity of or owned property [nearby], and enjoyed 'the wildlife, aesthetics, open space, ecological and other values of the wetlands, ... and [were] directly and beneficially interested in the continued protection, preservation, and enhancement of these values.'" *Id.* at 1160-61.

In denying BP's Motion to Dismiss, Judge Hoyt held that plaintiffs here maintain interests similar to those recognized in *Save Our Comm*. *See Abbott*, 781 F. Supp. 2d at 470.[244] The Court noted that

[244] Two other Courts of Appeals have found allegations similar to plaintiffs sufficient to confer standing under OCSLA. First, in *Ctr. for Biological Diversity v. U.S. Dept. of Interior*, 563 F.3d 466, 479, 483-4 (D.C.

> Abbott is a Texas native and has a direct interest in the protection, preservation and enhancement of the Gulf of Mexico environment. Further, Abbott and FWW members are 'directly and beneficially interested in the continued protection, preservation and enhancement of' values derived from the Gulf of Mexico environment. These interests are germane to FWW as an organization that promotes safe and sustainable seafood for customers while simultaneously helping protect the environment and supporting the long-term well-being of coastal fishing communities.

Id.

Specifically, Abbott, a native of the Gulf Coast of Texas, has a direct interest in the protection, preservation, and enhancement of the Gulf of Mexico environment.[245] Abbott avers that he has frequented Galveston to enjoy its beaches, fish and recreate in its waters, and simply to enjoy the aesthetics of Gulf of Mexico. He likewise enjoys consuming seafood derived from the Gulf of Mexico. As a result, Abbott maintains a direct interest in ensuring his future ability to enjoy these activities.

FWW member Donna M. Boland, who owns property on the Gulf Coast in South Padre Island, avers her economic interest in rental income from her property, her aesthetic interest in the vegetation and wildlife of the Gulf Coast, and recreational interests in the temperature of Gulf Coast water and desire to consume Gulf Coast seafood are threatened by BP's failure to abide by the law.[246]

Cir. 2009), the D.C. Circuit found that an environmental group had standing to bring a citizen suit under OCSLA standing where the particularized interest was enjoyment of the indigenous animals of the Alaskan areas in the Leasing Program. The Court determined that DOI's adoption of an irrationally based Leasing Program could cause a substantial increase in the risk to the Center for Biological Diversity's members' enjoyment of the animals affected by the offshore drilling and that setting aside the Lease would redress harm. Second, in *Conservation Law Found. of New England, Inc. v. Sec'y of Interior*, 790 F.2d 965, 969 (1st Cir. 1986), the First Circuit found that an environmental group had standing to bring an OCSLA citizen suit action where its members "depend upon the fishing resources and marine environment of Georges Bank . . . for food, recreation, scientific study, and commercial benefits." *Id.*

[245] *See* Decl. of Kenneth Abbott (Attach. F).

[246] *See* Decl. of Donna Boland (Attach. G).

FWW member Allen Estay, who lives in Louisiana adjacent to the bayou approximately 25 miles from the Gulf of Mexico, avers that he is the owner and operator of Bluewater Shrimp Company, which purchases and processes shrimp caught by fisherman in the Gulf of Mexico and that the Deepwater Horizon oil spill has significantly harmed his business.[247] He avers that his economic interest in his business, his recreational interests boating, fishing, and swimming in the Gulf of Mexico, and his aesthetic interest in the birds and wildlife of the Gulf of Mexico and bayou are threatened by BP's failure to comply with the environmental laws and regulations that apply to the Atlantis and are meant to prevent accidents and protect the marine environment and resources of the Gulf of Mexico.

FWW member Nancy James, who lives in Santa Rosa Beach, Florida, 500 yards from the Gulf of Mexico, avers an economic interest in the value of her property that is directly related to good water quality, pollution-free beaches, and nearby beach-related recreational activities.[248] James avers that her economic interest in her townhouse and her recreational and aesthetic interests in swimming, boating, and bird-watching are threatened by BP's failure to abide by the law.

In addition, FWW chief operating officer Lane Brooks avers the OCSLA claims are germane to FWW's organizational mission and that, as a result of BP's violations of law with respect to Atlantis, FWW had suffered a subsequent drain on its resources.[249] FWW has spent significant resources including months of staff time on efforts to educate the public, members of Congress, and MMS regulators about the problems at

[247] *See* Decl. of Allen Estay (Attach. H).
[248] *See* Decl. of Nancy James (Attach. I).
[249] *See* Decl. of Lane Brooks (Attach. J).

the facility. Brooks avers that a threat of an oil spill from the Atlantis injures FWW's interests because it would force the organization to spend more of its resources on educating consumers about the unsafe nature of Gulf seafood and its work to prevent fish farming, imported seafood, and the country's reliance of natural gas obtained through fracking.

The Supreme Court has consistently recognized that threatened rather than actual injury can satisfy standing requirements. *See Valley Forge Christian College v. Americans United for Separation of Church and State, Inc.*, 454 U.S. 464, 472 (1982); *Gladstone Realtors v. Village of Bellwood*, 441 U.S. 91, 99 (1979); *Babbitt v. United Farm Workers Nat'l Union*, 442 U.S. 289 (1979). Further, courts have allowed standing in environmental harm cases based on an alleged increased risk of harm, reasoning that environmental and health injuries are often purely probablistic. *See, e.g., Massachusetts v. EPA*, 549 U.S. 497, 527 (2007) (Finding standing where Plaintiffs allege motor-vehicle emissions will cause rise in sea level associated with increased greenhouse gas emissions, stating: "The risk of catastrophic harm, though remote, is nevertheless real."); *Mountain States Legal Found. v. Glickman*, 92 F.3d 1228, 1234-35 (D.C. Cir. 1996) ("The more drastic the injury that government action makes more likely, the lesser the increment in probability to establish standing."); *Village of Elk Grove Village v. Evans*, 997 F.2d 328, 329 (7th Cir. 1993) ("[E]ven a small probability of injury is sufficient to create a case or controversy-to take a suit out of the category of hypothetical-provided of course that the relief sought would, if granted, reduce the probability"); *Natural Res. Def. Council ("NRDC") v. EPA*, 464 F.3d 1, 6 (D.C. Cir. 2006); *Friends of the Earth, Inc. v. Gaston Copper Recycling Corp.*,

204 F.3d 149, 160 (4th Cir. 2000); *Overseas Shipholding Group, Inc. v. Skinner*, 767 F.Supp. 287, 293 (D.D.C. 1991) (increased risk of water pollution which would result from a major oil spill due to change in ship configuration sufficient for standing); *see also Sierra Club, Lone Star Chapter v. Cedar Point Oil Co., Inc.*, 73 F.3d 546, 556 (1996) ("That this injury is couched in terms of future impairment rather than past impairment is of no moment.").

Just as in *Mountain States*, even an incremental increase in the risk of a major oil discharge from deepwater Atlantis in the Gulf of Mexico is a sufficient threat to environmental interests to support standing. Glen Stevick, a registered professional engineer in the states of California, Nevada, and Utah, testified that, where BP has over 7,000 drawings for Atlantis that are not stamped by a registered professional engineer or marked "as-built," no one knows what stage of engineering the drawings really reflect.[250] Stevick concludes that it is *almost certain* that a safety problem will occur.

b. Plaintiffs' Threatened Injury is Traceable to BP's Conduct.

BP's failure to maintain engineering documents required by MMS regulations creates a substantial likelihood that the plaintiffs' threatened harm will become a reality. Plaintiffs are not required to show with "scientific certainty" that BP "caused the precise harm suffered by the plaintiffs" in order to show that an injury is "fairly traceable" to BP's actions. *See Lujan*, 504 U.S. at 560-61; *Save Our Comm.*, 971 F.2d at 1161. Instead, the "plaintiffs need only show that there is a 'substantial likelihood' that defendant's conduct caused [or could cause] plaintiffs' harm." *Powell Duffryn Terminals, Inc.*, 913 F.2d at 72 (internal citation omitted).

[250] *See* Decl. of Glen Stevick at ¶¶ 1-5 (Attach. D); Dep. of G. Stevick at 48:4-54:5 (Attach. A, Ex. 92).

MMS relies on the regulations in question to prevent oil spills. Indeed, the April 17, 2003 Site-Specific Environmental Assessment, SEA No. N-7646, for Atlantis shows that strict enforcement of MMS regulations regarding engineering and safety requirements for production safety systems, which include the requirement that the "design for the mechanical and electrical systems to be installed were approved by registered professional engineers," prevents or minimizes the potential for oil spills and resulting damage:

> **Spill Prevention**
> The MMS has comprehensive pollution-prevention requirements that include numerous redundant levels of safety devices, as well as inspection and testing requirements to confirm that these devices work. Many of these requirements have been in place since about 1980. Spill trends analysis for the GOM OCS show that spills from facilities have decreased over time, **indicating that MMS's engineering and safety requirements have minimized the potential for spill occurrence and associated impacts. Details regarding MMS's engineering and safety requirements can be found at 30 CFR 250.800 Subpart H.**[251]

BP's Environmental Impact Assessment submitted in December 2002 likewise relies upon the enforcement of protections provided by 30 C.F.R. § 250, subpart I, including the very regulation requiring engineering drawings for the platform to be certified by a registered professional engineer.[252]

Additionally, Dr. Richard Pierce, a chemical oceanographer and director of the Mote Marine Laboratory Center for Ecotoxicology, testified that a major deepwater

[251] Site-Specific Environmental Assessment, SEA No. N-7646 at E-2 (Apr. 17, 2003) [FWW0008573 at FWW0008620] (Attach. A, Ex. 93).
[252] DOCD, Environmental Impact Statement § 8.3, [BPEP_ABB_03534784] (Dec. 2002)("BP has submitted a proposed Platform Verification Plan to the MMS that will demonstrate that the proposed platform structure and moorings will be designed, fabricated, installed, used, inspected, and maintained to assure structural integrity for the safe conduct of production operations considering the specific environmental conditions at the platform location as mandated by Title 30, Chapter II, Subchapter B, Subpart I - Platforms and Structures, Sections 250.900 -250.914.") (Attach. A, Ex. 94).

discharge of crude oil would have irreparable and long-term adverse impacts on the Gulf of Mexico ecosystem.[253] Dr. Pierce's expertise is in the fate and effects of toxic chemicals in the aquatic environment. His conclusions are not speculative - they are based on published scientific studies, previous oil spills, published data, and toxicity data of chemical components of crude oil.[254] He testified that the Gulf of Mexico ecosystem has been compromised by the Deepwater Horizon disaster and that an additional spill could cause irreversible damage to recovering ecosystems.[255]

Accordingly, failure to comply with the regulations is "fairly traceable" to plaintiffs' threatened injury.

c. Plaintiffs' Claims are Redressable.

The third prong of standing requires that a plaintiff's injuries be capable of redress by the requested relief. *Lujan*, 504 U.S. at 560-61. Requiring BP to halt production at Atlantis until compliance is verified or forfeit its leases would redress the plaintiffs' threatened harm because BP's violations of OCSLA and its implementing regulations create an impermissible, inherent risk of an incident at Atlantis. Until the risk of such an incident can be remedied, prohibiting production at Atlantis ensures protection of the environment and thereby of the plaintiffs' interests. *See, e.g., W. Va. Highlands Conservancy v. Johnson*, 540 F. Supp. 2d 125, 143 (D.D.C. 2008); *Natural Res. Def. Council v. E.P.A.*, 489 F.3d 1364, 1371 (D.C. Cir. 2007); *see also Warth v. Seldin*, 422 U.S. 490, 515 (1975) (explaining that when an associational plaintiff "seeks a declaration,

[253] Dep. of R. Pierce at 19:15-25; 23:4-12; 122:10-123:9; 124:15-16; 127:9-16; 161:10-24: 170:25-171:10 (Attach. A, Ex. 95).
[254] *Id.* at 37:13-21; 58:6-59:22; 119:22-120:10.
[255] *Id.* at 107:23-109:3; 169:20-170:24.

injunction, or some other form of prospective relief, it can reasonably be supposed that the remedy, if granted, will inure to the benefit" of the association's members). Summarizing the more detailed issues of standing discussed above, the Supreme Court recently clarified, "[a]t bottom, the gist of the question of standing is whether petitioners have such a personal stake in the outcome of the controversy as to assure that concrete adverseness which sharpens the presentation of issues upon which the court so largely depends for illumination." *Massachusetts*, 549 U.S. at 517. Plaintiffs here have demonstrated a personal stake in the outcome of this litigation and meet the test for standing.

3. BP's Continued Operation of Atlantis Is Dangerous.

For a permanent injunction to issue, the plaintiff must prevail on the merits of his claim and establish that equitable relief is appropriate in all other respects. *See Amoco Prod. Co. v. Village of Gambell*, 480 U.S. 531, 546 n. 12 (1987). The elements required for injunctive relief are: (1) a substantial likelihood that the parties will prevail on the merits, (2) a substantial threat that the parties will suffer irreparable injury if the injunction is not granted, (3) the parties' threatened injury outweighs the threatened harm to the party whom the parties seeks to enjoin, and (4) granting the preliminary injunction will not disserve the public interest. *Lake Charles Diesel, Inc. v. GMC*, 328 F.3d 192, 195 (5th Cir. 2003) (quoting *Mississippi Power & Light Co. v. United Gas Pipe Line Co.*, 760 F.2d 618, 621 (5th Cir. 1985)).

However, the Fifth Circuit has recognized that courts may issue "an injunction without making findings of irreparable harm, inadequacy of legal remedy, or the balance of convenience, provided that traditional equitable principles permit such a

course of action." *United States v. Marine Shale Processors*, 81 F.3d 1329, 1359 (5th Cir. 1996). The Fifth Circuit in *Marine Shale Processors* considered two such traditional principles of equity-wilfulness and protecting the public interest. Both are applicable here. BP has acted with at least reckless disregard to the truth of its certifications in the critical permit applications, and another massive oil spill in the Gulf of Mexico would cause significant harm to the public interest.

a. BP Has Violated OCSLA and MMS Regulations.

As to the first element, plaintiffs have established above BP's violations of OCSLA and MMS regulations.

b. BP's Conduct Poses a Substantial Threat of Irreparable Harm.

Simply put, the longer Atlantis remains operative without statutorily required engineering documents, the greater the risk of an oil spill. Previous catastrophes at facilities similar to Atlantis establish not only the importance of regulatory compliance but also the fragility of the environments surrounding these facilities. The Gulf of Mexico just recently suffered the devastating effects of the Deepwater Horizon disaster. In addition to the immediate loss of human life, birds drowned in oil, dolphins washed onshore, and land was covered in oil, and the massive oil spill has caused long term and irreparable harm to the Gulf of Mexico ecosystem. Compliance with OCSLA regulations serves to protect the public from such catastrophes, and BP's persistent and ongoing regulatory violations jeopardize the safety and welfare of persons, property, and the environment.

(1) BP's Failure to Obtain Approval By Registered Professional Engineers of its Designs Increases the Risk of an Oil Spill or Explosion.

(a) Introduction

States regulate the practice of engineering to protect the heath, safety, and welfare of their citizens.[256] Some states began regulating the practice of engineering only after the occurrence of disasters attributable to engineering failures. For example, Texas began regulating the practice of engineering in 1937, months after hundreds died in an explosion in a school in New London caused by a natural gas leak attributed to faulty engineering. California began regulating the practice of engineering after the failure of the St. Francis Dam in 1928, which killed more than 500 people.[257]

A registered professional engineer duly licensed by a state typically has graduated from an engineering or science curriculum that is approved by a licensing authority, has engaged in the practice of engineering for a period of years, has passed the examination requirements set by the state, and has met minimum character requirements.[258] Further, registered professional engineers are typically subject to continuing education requirements.[259]

The costs for services of a licensed registered professional engineer are usually higher than for services of less experienced engineers who are not licensed registered

---

[256] *See, e.g,* Tex. Eng. Prac. Act § 1001.401(a) – (b) ; La. R.S. 37:681; CAL. BUS. & PROF. CODE § 6704; NEV. REV. STAT. § 625.005; UTAH RULES, UTAH ADMIN. CODE R. R156-22-302c; Decl. of Glen Stevick ¶16 (Attach. D).

[257] *The Professional Engineering* at 27 – 29 (Nat'l Soc. Prof. Eng. July 2007) (Attach. A, Ex. 84); Decl. of Glen Stevick at ¶ 20 (Attach. D).

[258] For example, see Tex. Eng. Prac. Act. § 1001.302 - .304; La. R.S. 37:693-95 Cal. Bus. & Prof. Code § 6751-59; Nev. Rev. Stat. § 625.183; Utah Code § 58-22-302; Decl. of Glen Stevick at ¶ 21 (Attach. D).

[259] *See, e.g.,* Texas Rules § 137.17; La.R.S. 37:697.1 Nevada Rules, NAC 625.430; Utah Code § 58-22-304.

professional engineers.[260] As a result, unless approval or certification of engineering designs by a registered professional engineer is required and enforced, a company will have an economic incentive to use less experienced engineers, increasing the risk of harm from faulty engineering. Effects of BP's failure to use appropriately credentialed registered professional engineers are evident in the numerous engineering-related failures and dangers discussed below.

(b) Atlantis Pressure Relief Valves Are Not Fit for Service According to BP's Own Criteria.

Production platforms such as Atlantis process hydrocarbons through pressure vessels. The production safety system is required to include pressure relief valves to avoid explosions or loss of containment due to overpressure; both pressure vessels and their pressure relief valves are required to comply with applicable provisions of the American Society of Mechanical Engineers ("ASME") Boiler and Pressure Vessel Code. 30 C.F.R. § 250.803(b)(1). "The relief valves shall conform to the valve-sizing and pressure-relieving requirements specified in [ASME] documents; . . ." 30 C.F.R. § 250.803(B)(1)(i).

During December 2009, a BP internal "S&O" Audit found that Atlantis did not have necessary "sizing calculations" for 150 of its 401 pressure relief valves.[261] The Audit found Atlantis in violation of requirements that it "have documented engineering

[260] *See, e.g.,* Dep. of L. Osborne (Mustang) at 152:20 – 23 (Attach. A., Ex. 53); Decl. of Stevick at ¶ 23 (Attach. D).
[261] Gulf of Mexico SPU - Atlantis S&O Audit, 30 November 2009 to 11 December 2009, Entity Verifiable Findings, Audit 0935 [BPEP_ABB_04147184 & BPEP_ABB_04147199] (Attach. A, Ex. 96).

data to demonstrate that existing facilities are fit for service;" Atlantis was directed to obtain or re-create the missing calculations.[262]

Sizing calculations are a necessary part of the engineering design for pressure relief valves. Sizing calculations constitute the unique design basis for each valve; they become permanent safety information pertaining to the equipment that is vital for ensuring mechanical integrity and fitness for service.[263] By the time of the S&O Audit, BP Atlantis had been in operation for over 3 years without the necessary design basis for over one-third of its critical pressure safety valves.

BP obtained the services of WorleyParsons, a well-known engineering firm, which produced a number of reports on the pressure relief valves. Mike Sawyer's attached Declaration provides his findings through the date of the report.

> During the sizing study Parsons found that a number of valve[s] in service are inadequate (undersized), others had missing data that is now unavailable from the manufacturer, and still others had missing and/or incomplete inlet/outlet piping calculations.[264]

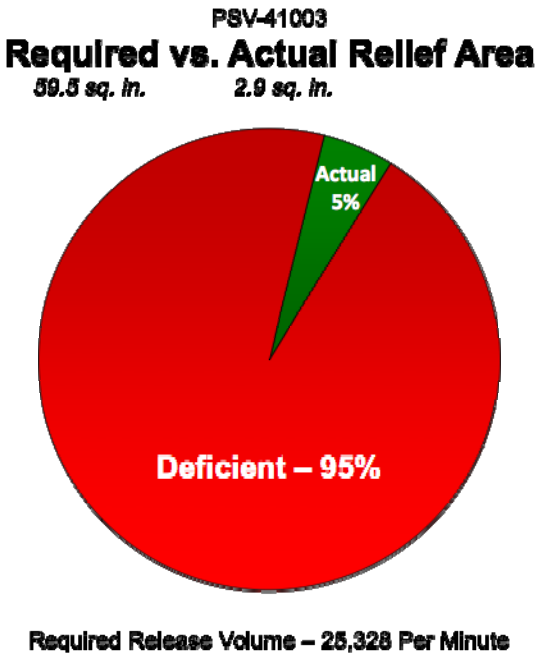
The most serious finding regarded PSV-41003, a valve that is located to protect a 16" diameter oil pipeline that carries the processed oil off the platform toward shore. WorleyParsons sizing calculations for that valve determined it to be "inadequate" for service. [265]

WorleyParsons calculations found the ASME required relief area (size) for a valve for this service to be almost 60 sq. in. compared to the ASME size of the valve

---

[262] Audit Report, Safety & Operations Audit, Final Report 13, January 2010 [BPEP_ABB_04147214 at BPEP_ABB_04147241] (Attach. A, Ex. 97)
[263] Decl. of Mike Sawyer, March 30, 2012 at ¶¶ 7-10 (Attach. K)
[264] *Id.* at ¶ 10.
[265] *Id.* at ¶¶ 11-17; WorleyParsons, PSV-41003 Sizing Check Calculation, August 19, 2010 [BPEP_ABB 02828782 at BPEP_ABB_02828784, BPEP_ABB_02829785 (Attach. A, Ex. 98).

actually in service of less than 3 sq.in. The valve is undersized by a factor of 20 to 1, demonstrated by the graph below:



The required relief rate must allow outflow from the pipeline in the amount of over 25,000 gallons per minute, obviously impossible by far for a relief area under three inches.

WorleyParsons determined the most credible and plausible scenario requiring operation of PSV-41003 was a power failure shutting down the pipeline pumps, with leakage through the check valve back to the oil pipeline.[266] This would create back flow in the pipeline requiring the protection of a valve with a relief area of at least 59.5 sq. in. A smaller relief valve is not fit for this service and does not "conform to the valve-sizing and pressure-relieving requirements" of ASME in violation of 30 C.F.R. § 250.803(b)(1)(i). Failure to provide a valve at the location of PSV-41003 adequate to

[266] Decl. of Mike Sawyer, March 30, 2012 at ¶¶18-19 (Attach. K).

relieve the required excess capacity during an upset could result in a release of hydrocarbons within the production module and subsequent fire or explosion or both. A release of hydrocarbons under pressure from a pipeline such as this would likely take the form of a highly flammable vapor cloud that could rapidly engulf the platform; any ignition source could cause explosive ignition of the vapor cloud with catastrophic results.

Such a scenario is quite similar to the immediate cause of both the Deepwater Horizon and Texas City tragedies.[267] On Deepwater Horizon, the pressure relief volume overwhelmed the flare header, escaped containment and ignited. At Texas City, a combination of liquid and vapor hydrocarbons escaped containment and was explosively ignited. It is well established that such a release of hydrocarbons

> is a factor in virtually all threats to safety. Thus, the major objective of the safety system should be to prevent the release of hydrocarbons from the process and to minimize the adverse effects of such releases if they occur.[268]

Power losses resulting in platform shutdowns have already occurred on Atlantis on multiple occasions. Among the emails discussing controls malfunctions (discussed at Section D.3.b.1.c below), there are several which record platform power failures leading to total loss of power on the platform and shutdown of the platform.[269] The

---

[267] *Id.* at ¶¶ 11-12.
[268] API RP 14C -- Recommended Practice for Analysis, Design, Installation, and Testing of Basic Surface Safety Systems for Offshore Production Platforms, Sec. 3.2, p. 7 (Attach. A, Ex. 77).
[269] *See, e.g.,* June 15, 2008 Root Cause Analysis Report – Gas Turbine Generator ZAN-500 Shutdown [BPEP_ABB_04135740] (Attach. A, Ex. 99); Feb. 11, 2008 Email from F. Ragan to W. Dean (Technip) [BPEP_ABB_03514575] (Attach. A, Ex. 100); Sept. 22, 2007 Email from S. Maxwell to R. Oneta [BPEP_ABB_03502155 to BPEP_ABB_03502156] (Attach. A, Ex. 101).

total number of loss of power events is unknown, because the automatic logs generated by the controls system to record system events have been lost or destroyed.[270]

When such power losses cause platform shutdowns, WorleyParsons' analysis finds the pipeline protection left only to check valves. As Mr. Sawyer explains,

> Check valve failure is quite common. In fact, when conducting HAZOP Studies, a check valve is not an acceptable safeguard. According to API RP 520 (2007) Section 4.3.4.4, check valves cannot be relied on to be leak free for relief purposes.[271]

The WorleyParsons report to BP is dated August, 19, 2010. It documents a clear and present danger of catastrophe to the platform with *no* acceptable protection. Today, 4 ½ years after start of production, and eighteen months after the WorleyParsons report, the inadequate valve is still in place.[272]

And, as Mr. Sawyer's Declaration makes clear, this is only one of many PSVs which are either inadequate, or which cannot be documented as fit for service for other reasons.[273]

(c) Atlantis Production Safety System Subsea Controls System Has Experienced Repeated Malfunctions Resulting In Loss of Well Control.

The design of the critical shutdown system of Atlantis, which is an essential part of the production safety system, violates both federal regulations and the Atlantis production safety system permit itself.[274] The electro-mechanical controls for the

---

[270] Dep. of S. Cotton (BP) at 5:13-14; 8:20-23; 9:19-10:3; 21:1-22:20; 23:12-25; 33:15-34:2; 36:5-18; 38:5-39:6 (Attach. A, Ex. 102).
[271] Decl. of Mike Sawyer, March 30, 2012 at ¶ 19 (Attach. K).
[272] Piping & Instrument Diagram, Pipeline Pumps (Drawing No. 1440-20-PI-DG-4389) [BPEP_ABB_02832882] (Attach. A, Ex. 103).
[273] Decl. of Mike Sawyer, March 30, 2012 at ¶¶ 20-23 (Attach. K).
[274] Aug. 26, 2008 Email from Berger to Broman [BPEP_ABB_ 03579591 to BPEP_ABB_0357952] (Attach. A, Ex. 104).

Atlantis shutdown system have malfunctioned repeatedly from before start-up until now. The system was designed and is administered by persons who are not registered professional engineers and who seem to accept system instability and repeated malfunction as a way of life. The safety shutdown logic drawings were not approved by a registered professional engineer *or by any person whatsoever* before being included as part of the controls system.[275]

Maintaining well control is a critical congressional policy. 43 U.S.C. § 1332(6). The Atlantis subsea controls system is intended to control undersea well valves and receive data from undersea sensors through redundant data links (two to each well) running several miles to the wells. Repeated and continuing malfunctions have resulted in total loss of communications on both redundant paths, resulting in loss of well control,[276] as well as loss of redundancy in communications with the wells.[277]

Nearly a thousand pages of emails, summarized in a controls malfunction timeline[278] report total or partial losses of well control events including: (a) multiple failures of single board computers which send and receive data communications to the wells, causing total loss of well control on both redundant channels to two wells simultaneously; (b) loss of all communications with a well on one data channel; (c) partial or intermittent loss of data communication with a well; and (d) loss of data from downhole gauges. In other loss of well control events there have been erratic or

[275] Safety Shutdown Logic Drawings , BP. Doc. No. 1440-35-SB-DG-3021 through 3030 [BPEP_ABB_03359747 to BPEP_ABB_03359757] (Attach A., Ex. 105 – redacted).
[276] Dep. of S. Cotton (BP) at 21:23-22:10 (estimating 5-10 total loss of communication events) (Attach. A, Ex. 102).
[277] Dep. of K. Angel (BP) at 18:4-20:11 (Attach. A, Ex. 106); Aug. 26, 2008 Email from Berger to Broman [BPEP_ABB_ 03579591 to BPEP_ABB_0357952] (Attach. A, Ex. 104).
[278] Controls System Malfunctions Timeline and supporting documentation (Attach. A, Ex. 107).

improper operation, including: (a) well tree valves opening and closing uncommanded; (b) uncommanded well shut-in events; (c) failure of the choke valve (used as a shut off valve in emergencies) to open and close as commanded; (d) failure of the choke valve fast acting module [used for quick shutdown in emergencies] to function. Other miscellaneous malfunctions have included: operator screens presenting an inaccurate subsea situational picture; malfunctions of SmartTool (a software program used to control the valves); subsea power and control unit (a major component of the subsea controls system) malfunctions; the multiple malfunctions and improper data readings of subsea electronics module (a device which sends and receives data communications on the well tree) and a large quantity of network errors related to operating the fastcan server. From the start of production (Oct. 6, 2007) until about the end of 2008, these malfunctions were documented by email frequently.

From early 2009 to the present day, the problems have continued but with little documentation produced by BP. Keith Angel, who became head of the subsea team in May 2009, testified that (1) on Well 112, he has lost data communications on one data line and has been running the well with one non-redundant communication path for 4-5 months;[279] (2) on Well 131, he has had a similar problem for about 6 months or so;[280] (3) on Wells 123 and 124 (which share the same communications line), he has a probable ground fault which was discovered through the line insulation monitor.[281] The line insulation monitors, in general, have provided erratic data since January 2008.[282] The

[279] Dep. of K. Angel (BP) at 18:4-20:11 (Attach. A, Ex. 106).
[280] Id. at 20:16-21:13.
[281] *Id*. at 23:3-21.
[282] Jan. 3, 2008 Email from B. Young to N. Oza and R. Berger [BPEP_ABB_03512831] (Attach. A, Ex. 108).

reason for the erratic data has never been diagnosed, and BP claims the problem "spontaneously" resolved itself in June 2011, but an unresolved, undiagnosed problem is likely to surface again.[283]

Angel recalled other problems, such as having to change out at least three subsea electronics modules, changing out a number of faulty fast acting choke valve modules, having Well 131 shut itself during a restart.[284] Indeed, BP had to reset the subsea power and control unit in order to regain communications with the well. There were other problems that Angel could not recall well enough to list.[285]

Loss of communications between the operator and the well means a loss of control of the flow and flow path of oil and gas production. The communications links carry data information from subsea sensors related to pressure, temperature, and flow rate. Loss of one of the two data paths eliminates redundancy, and redundancy is required for safe operations. Loss of both communications pathways creates the unsafe condition of wells "running blind," with no ability to send control signals or receive data through the electronic communications.

Additionally, the uncommanded opening, closing, and cycling of well valves represents a loss of control of the well. During a 5 ½ hour period in January 2008, the Atlantis Event Log recorded approximately 1,000 events where the controls system on well DC 124 acted independently of the operator.[286] One of the valves that opened repeatedly was the cross over valve, which is a valve that connects the production

[283] Dep. of K. Angel (BP) at 23:22-25:8 (Attach. A, Ex. 106).
[284] *Id.* at 25:21-27:17.
[285] *Id.* at 27:4-5.
[286] Jan. 7, 2008 Email from N. Oza re: FW Subsea vavles (sic) opening without request [BPEP_ABB_04125309] (Attach. A, Ex. 109).

tubing (which contains oil and gas production under high pressure) to the annulus.[287] The valve movement released oil into the annulus, which could have created a hydrate often associated with blowouts.[288] On another occasion, the controls system shut-in Well 122 entirely without being commanded, as Angel later reported happened on Well 131.[289]

(d) The Design of the Atlantis Controls Violated Federal Regulations.

Even more critical than these recurring instabilities, the Atlantis shutdown system does not comply with federal requirements for emergency shutdown, and BP has failed to notify MMS of its violation or remedy the defective design. Federal regulations require the major safety shutdown valve, located deep in the well bore, to close within 2 minutes, 45 seconds (2:45) of automatic detection of an abnormal condition on the platform. 30 C.F.R. § 250.803(b)(4)(ii). MMS granted Atlantis a "deviation" to allow the valve to remain open up to one hour using a "delay timer," but, during the delay period, other valves controlled through the electronic data links must close to shut off well flow.[290] Use of the delay timer is prohibited if total ("dual") loss of communications with a well exists, since the electronic data paths could not close any valves in that situation. However, the design of the Atlantis controls system failed to effectively incorporate that prohibition, so that the controls system allows the delay

[287] Jan. 7, 2008 Email from W. Broman to N. Oza [BPEP_ABB_03559672 to BPEP_ABB_03559673] (Attach. A, Ex. 110).
[288] Dep. of R. Berger, Nov. 2, 2011 (BP) at 98:12-25; 147:19-23 (Attach. A, Ex. 111); *see also* Dep. of J. Upchurch (Technip) at 144:5-145:1 (Attach. A, Ex. 50).
[289] Aug. 10, 2008 Email from J. Little Re: DC122 Shut in [BPEP_ABB_03626944 to BPEP_ABB_03626945] (Attach. A, Ex. 112).
[290] *See* May 3, 2007 Letter from B. Domangue, MMS, to D. Sustala, BP [BPEP_ABB_00085724 to BPEP_ABB_00085727](Attach. A, Ex. 79); Dep. of B. Domangue (MMS) at 203:4-204:14 (Attach. A, Ex. 4).

timer to be used even when total loss of communication with wells exists, as explained in more detail below.

The Atlantis shutdown system implementation involves two interrelated controls systems, the emergency support system and the subsea controls system.[291] 30 C.F.R. § 250.801(i). Critical engineering documents related to these systems were not approved by registered professional engineers.[292]

In an emergency shutdown, the surface safety valve (or boarding valve) must close within 45 seconds after the safety system detects an abnormal condition. The subsurface safety valve located deep in the well bore must close within two minutes thereafter (a total of 2:45). 30 C.F.R. § 250.803(b)(4)(ii). For Atlantis, this second valve is called the surface-controlled subsurface safety valve. 30 C.F.R. § 250.803(b)(4). The surface-controlled subsurface safety valve is required to close in response to shut-in signals from the emergency support system, or signals from fire detection devices. 30 C.F.R. § 250.801(i).

Closure of the boarding valve immediately shuts off the flow of volatile hydrocarbons onto the platform, a first safety response to a process release or upset. Closure of the subsurface safety valve within the well bore, totally shuts down flow from the well and prevents further escape of production from the well under any circumstances. These valve closings occur through a dump of hydraulic pressure by a

[291] Dep. of F. Ragan, Sept. 8, 2011 (BP) at 66:3-68:5; 70:18-71:16; 74:5-16 (Attach. A, Ex. 46).

[292] Functional Design Specification for the Master Control Station, Subsea Control Unit, BP Doc. No.: 1440-35-SB-SP-0030 [BPEP_ABB_02895422 to BPEP_ABB_02895423] (Attach. A, Ex. 113); Safety Shutdown Logic Drawings, BP Doc. No. 1440-35-SB-DG-3021 through 3030 [BPEP_ABB_03359747 to BPEP_ABB_03359757] (Attach. A, Ex. 105 - redacted); Subsea Control System Cause and Effects, BP Doc. No.: 1440-35-SB-RP-0114 [BPEP_ABB_02408632] (Attach. A, Ex. 114); Master Control Station Site Integration Test, BP Doc. No.: 1440-35-SB-PR-0130 [BPEP_ABB_03244795] (Attach. A, Ex. 115).

signal from the emergency support system to the hydraulic pressure unit located on the platform.

The "deviation" allows Atlantis to delay the closing of the surface-controlled subsurface safety valve for up to one hour. During that period, in lieu of closure of the surface-controlled subsurface safety valve, MMS allows BP to close a group of valves located on the well tree just downstream[293] of the wellhead; these closures are activated by electronic signals from the subsea control system through the redundant electronic pathways to the subsea electronic modules on the well trees, several miles from the platform. A total or dual loss of communications with one or more wells would prevent the electronic signals from closing the tree valves on those wells. In such an event, use of the delay time is *not* allowed.[294]

The loss of communications with wells produced through Atlantis have included 5-10 total ("dual") losses of well communications, according to the current lead engineer for instrumentation and controls on Atlantis Steve Cotton,[295] although the actual number is unknown,[296] and cannot be ascertained without data logs. BP's controls expert has no idea how many dual communications failures or other malfunctions occurred or how many failed to generate alarms; he only knows they were not recognized until almost a year had passed.[297]

---

[293] In the oil and gas industry, the bottom of the well is the farthest "upstream" point. Produced hydrocarbons are said to move "downstream" through the production facility, to refining (midstream) and to retail outlets (downstream). Any point in the process may be said to be "upstream" or "downstream" of any other point.

[294] June 21, 2004 Preliminary Deepwater Operations Plan at 10-19 through 10-22 [BPEP_ABB_00087921] (Attach. A, Ex. 116].

[295] Dep. of S. Cotton at 21:23-22:10 (Attach. A, Ex. 102).

[296] *Id.* at 12:4-9; Dep. of L. Holzenthal, Jr. at 126:10-127:18 (Attach. A, Ex. 117).

[297] Dep. of L. Holzenthal, Jr. at 126:10-127:1 (Attach. A, Ex. 117).

After eleven (11) months of production, Atlantis operations documented that dual losses of communication not only were occurring, but that the malfunctions were not being promptly detected; wells were "running blind" without alarms, or operator realization of what was happening.[298] Electronic signals of the loss of communications with the wells *should have been, but were not* being sent to the emergency support system.[299] BP operations understands this to be a violation of the authorized production safety system logic.[300]

In lay terms, single board computer faults were resulting in a failure to generate the proper alarms, which in turn resulted in the failure to have an emergency shutdown when required.[301] This would allow the surface-controlled subsurface safety valve to remain open with only the boarding valve closed, in direct violation of 30 § C.F.R. 250.803(b)(4). It creates unlawful and unnecessary dangers both to the platform and persons on it, and to the environment.[302]

BP operations recognized this situation as "a non-compliance with the [emergency shutdown] safety logic of the subsea system" on August 26, 2008, almost a year after the start of production.[303] They notified management, but did not notify

[298] *Id.* at 85:8-17, 89:8-14; Aug. 26, 2008 Email from Berger to Broman [BPEP_ABB_ 03579591 to BPEP_ABB_03579592] (Attach. A, Ex. 104); Aug. 5, 2008 Email from S. Cotton to K. Dejohn and F. Ragan re: FW: Atlantis update [BPEP_ABB_04136705 to BPEP_ABB_04136709] (Attach. A, Ex. 118).
[299] Dep. of S. Cotton (BP) at 55:10-57:3 (Attach. A, Ex. 102).
[300] Aug. 26, 2008 Email from Berger to Broman BPEP_ABB_ 03579591 to BPEP_ABB_03579592] (Attach. A, Ex. 104); Dep of S. Cotton (BP) at 58:11-23 (Attach. A, Ex. 102)
[301] Aug. 5, 2008 Email from S. Cotton to K. Dejohn and F. Ragan re: FW: Atlantis update [BPEP_ABB_04136705 to BPEP_ABB_04136709] (Attach. A, Ex. 118); Dep of L. Holzenthal at 124:9-125:10 (Attach. A, Ex. 117).
[302] *See* Decl. of Mike Sawyer, Dec. 28, 2011 at ¶¶ 15-21(Attach. C).
[303] Aug. 26, 2008 Email from Berger to Broman [BPEP_ABB_ 03579591 to BPEP_ABB_03579592] (Attach. A, Ex. 104).

MMS of the non-compliance.[304] The non-compliance existed because this failure mode was not considered during the design of the controls system.[305]

The SAFE chart for Atlantis failed to include critical subsea valves that regulate, control, and contain the process flow, including the subsea tree production isolation valve, choke, cross over valve, annulus master valve, and annulus wing valve. By omitting these critical components from the safety shutdown logic functionality, the controls system software, which relies upon this functionality, has been improperly designed. Ragan (BP) admitted in an internal email that there was "no specific design for where some of the [controls] software would reside," and that he was "not aware of any issued document which formed the basis of the design."[306] Another BP employee involved in the design wrote that "most of us are not literate enough on software to actually understand the changes being made and their impact."[307] This grave disconnect and failure to undertake design responsibility is why approval by registered professional engineers is needed.

(2) BP's Failure to Develop "As-Built" Drawings Creates a Significant Threat of Harm to Persons, Property, and the Environment.

If "as-built" drawings are not clearly marked "as-built," operators of the facility have no assurance that the process for creating "as-built" drawings—with construction changes approved by engineers to ensure that they are safe—actually occurred. Worse

[304] *Id.*; *See* Dep. of B. Domangue (MMS) at 217:3-220:1; 229:16-232:12; 236:8-239:7; 248:21-249:13; 260:22-261:18 (Attach. A, Ex. 4).
[305] Oct. 28, 2008 Email from Cotton to Waterhouse re: Subsea Comms MOC-08-218 Hazard Review [BPEP_ABB_04135730] (Attach. A, Ex. 119).
[306] Jan. 22, 2007 Email from R. Peloubet re: Operations Managers Meeting and Higher [BPEP_ABB_03498616 to BPEP_ABB_03498618] (Attach. A, Ex. 120).
[307] *Id.*

yet, such operators, either in normal practice or during an emergency, will rely on documents that may not reflect the "as-built" condition of the facility by incorrectly assuming that a drawing that has not been updated is in fact the "as-built" version.

In fact, this situation occurred following the Deepwater Horizon well blowout in the Gulf of Mexico on April 20, 2010. BP experienced difficulties in activating blowout preventer hydraulic components due to a lack of updated "as-built" drawings. Sir William Castell, chairman of BP's Safety Environmental Ethics Assurance Committee, stated that it has been "extremely difficult" to get appropriate drawings that allow them "*to assess the position of various pieces of equipment . . . even when lives are threatened . . . .*"[308] Similarly, Gillian Cowlam, BP's Technical Authority for the North Sea, and one of the BP personnel participating in the investigation of the Deepwater Horizon Blowout, states "*it would have been more useful to have had up-to-date drawings.*"[309] Steve Newman, President and CEO of Transocean testified about the difficulties associated with not having "as-built" drawings. "What we learned in the initial few hours following the explosions as we attempted to intervene on the [blowout preventer] with the [Remote Operated Vehicle], we learned that the actual arrangements on the BOP did not—were not properly reflected on the drawings."[310]

[308] Dep. of W. Castell (BP) at 117:09 to 119:08 (Attach. A, Ex. 121).
[309] Dep. of G. Cowlam (BP) at 190:09 to 190:17 (Attach. A, Ex. 122).
[310] Dep. of S. Newman (Transocean) at 105:1-106:9 (Attach A., Ex. 123); *see also* Dep. of P. Campbell (Wild Well Control) at 351:8-352:13 (Attach. A, Ex. 124) (CEO of Contractor hired by BP during the DWH disaster testified about the lack of "as-builts," "Well, to put it simply, we're barking up the wrong tree. In other words, we're trying to follow with a flying eyeball where that line initiates and where it terminates, and that doesn't match up with the drawing.); Dep. of R. Turlak (Transocean) at 297:6-19; 298:2-6; 298:14-24 (Attach. A, Ex. 125) .

Accordingly, BP's failure to perform "as-builting" and maintain a complete set of "as-built" plans and specifications for Atlantis poses a significant threat of harm to persons, property, and the environment.

c. The Threatened Injury Outweighs Harm to BP

As to the third element, this Judge Hoyt held in his denial of BP's Motion to Dismiss that, "the threatened damage to the Gulf Coast quite clearly outweighs the threatened damage to BP. Furthermore, BP would likewise suffer monetary injury from a potential oil spill." *Abbott*, 781 F. Supp. 2d at 472. There can be no harm from requiring BP to comply with the law.

d. The Public Interest Weighs In Favor of Granting Injunction

The Supreme Court has held that, "[e]nvironmental injury, by its nature, can seldom be adequately remedied by money damages and is often permanent or at least of long duration, i.e., irreparable. If such injury is sufficiently likely, therefore, the balance of harms will usually favor the issuance of an injunction to protect the environment." *Amoco*, 480 U.S. at 545. Recognizing this, Judge Hoyts stated in his earlier ruling allowing Plaintiffs' injunction claim to go forward that,

> As to the final element, the Gulf Coast environment sustains unique wildlife and aesthetic beauties, and thousands of people rely on it for income. Further destruction of the Gulf by a spill or other incident at Atlantis would undoubtedly affect the public interest in a dramatically negative manner. Moreover, an incident at Atlantis could result in the permanent closure of the facility. While the Court appreciates the national interests in being able to drill for and produce oil and gas in the Gulf, the permanent loss of a producing oil and gas facility would cause a greater economic impact to the public than prohibiting production for the duration of time it takes for BP to comply with the relevant regulations.

Id.

Accordingly, Plaintiffs have met the test for enjoining operation of Atlantis.

4. A Special Master Should Be Appointed To Oversee a Remediation Plan.

BP's first false certification for Atlantis permits was issued to MMS in September 2002, while BP was on probation for a federal crime in Alaska. In the Alaska prosecution, BP, p.l.c. (ultimate parent and one of the defendants here) and BP America (the U.S. parent company and defendant here), promised in their plea agreement to "ensure" no further violations of federal law by subsidiaries operating in the United States, specifically to include the business units in the Gulf of Mexico. Since the Alaska conviction, BP units covered by the Alaska plea agreement committed additional crimes.

BP has the worst safety record of any major oil company, and it has a history of breaking promises. Therefore, plaintiffs request that the Court issue an injunction requiring full compliance with OCSLA and MMS regulations and that the Court impose a remediation plan under the direction of a master to assure that BP follows the Court's order. In the alternative, plaintiffs ask this Court to forfeit and cancel BP's Atlantis leases.

CONCLUSION

BP was required to submit applications for four permits for the Atlantis to become fully operational; BP lied to get at least two of the four permits. The Atlantis is unsafe because of incomplete engineering and unreliable documentation, and continued operations pose a significant threat to the Gulf of Mexico ecosystem. For the foregoing reasons, plaintiffs request that this Court hold BP liable under the FCA and

OCSLA, award damages to the United States, assess statutory penalties for BP's false claims, and enjoin operation of Atlantis or revoke BP's leases.

Dated: April 4, 2012

By: */s/ David L. Perry*

David L. Perry
State Bar No. 15800000
Federal Bar No. 5685
P.O. Box 1500
Corpus Christi, Texas 78403
Telephone: (361) 880-7500
Facsimile: (361) 887-9507
dlperry-business@perryhaas.com

ATTORNEY-IN-CHARGE FOR PLAINTIFFS

OF COUNSEL:

WATTS GUERRA CRAFT LLP
Mikal C. Watts
State Bar No. 20981820
Federal Bar No. 12419
MCWatts@wgclawfirm.com
J. Hunter Craft
State Bar No. 24012466
Federal Bar No. 24377
HCraft@wgclawfirm.com
Christopher V. Goodpastor
State Bar No. 00791991
Federal Bar No. 18505
CGoodpastor@wgclawfirm.com
Francisco Guerra IV
State Bar No. 00797784
Federal Bar No. 22568
fguerra@wgclawfirm.com
Edward W. Allred
State Bar No. 50511764
Federal Bar No. 22973
eallred@wgclawfirm.com
Emily C. Jeffcott
State Bar No. 24069993
Federal Bar No. 1069933
EJeffcott@wgclawfirm.com
811 Barton Springs Road
Suite 725
Austin, Texas 78704
Telephone: (512) 381-1964
Facsimile: (512) 479-0502

MALLETT, SAPER, BERG LLP
Edward A. Mallett
State Bar No. 1283000
Federal Bar No. 442
Edward@mgscounsel.com
JPMorgan Chase Tower
600 Travis St., Suite 1900
Houston, Texas 77002
Telephone: (713) 236-1900
Facsimile: (713) 228-0321

PERRY & HAAS
René Haas
State Bar No. 21406800
Federal Bar No. 5680
RHaas@perryhaas.com
P.O. Box 1500
Corpus Christi, Texas 78403
Telephone: (361) 880-7500
Facsimile: (361) 887-9507

Mary M. Whittle
Attorney at Law
TX State Bar No. 24033336
D.C. Bar No. 973916
3930 Argyle Terrace, N.W.
Washington, DC 20011
Telephone: (202) 320-1612
mmwhittle@mac.com

HOGAN & HOGAN
Richard P. Hogan, Jr.
State Bar No. 09802010
Federal Bar No. 8026
rhogan@hoganfirm.com
Jennifer Bruch Hogan
State Bar No. 03239100
Federal Bar No. 7187
jhogan@hoganfirm.com
909 Fannin, Suite 2700
Houston, Texas 77010
Telephone: (713) 222-8800
Facsimile: (713) 222-8810

CERTIFICATE OF SERVICE

I hereby certify that on this the 4th day of April 2012, a true and correct copy of the foregoing document was filed with the Court's ECF system and was served via electronic means through transmission facilities from the Court upon those parties authorized to participate and access the Electronic Filing System for the Southern District of Texas.

/s/ David L. Perry
David L. Perry

ATTACHMENT A

IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF TEXAS
HOUSTON DIVISION

UNITED STATES OF AMERICA EX REL. KENNETH W. ABBOTT; KENNETH W. ABBOTT, INDIVIDUALLY; AND FOOD & WATER WA TCH, INC.;	§	
Plaintiffs,	§	CIVIL ACTION NO. 4:09-CV-01193
v.	§	JURY DEMANDED
BP EXPLORATION AND PRODUCTION INC., ET AL.;	§	
Defendants.	§	

DECLARATION OF MARY WHITTLE

I, Mary Whittle, pursuant to the provisions of 28 U.S.C. § 1746, declare:

1. I am an attorney at law licensed to practice before the court of the State of Texas and the District of Columbia. I am counsel for Plaintiffs United States of America *ex rel.* Kenneth W. Abbott, Kenneth W. Abbott, individually, and Food and Water Watch, Inc. (collectively "Plaintiffs") in this matter. I am fully familiar with the facts stated below and submit this declaration and the attached exhibits in support of Plaintiffs' Motion for Summary Judgment. All of the statements of fact in this Declaration are true and correct according to my personal knowledge.

2. Attached hereto as Exhibit 1 is a true and correct copy of Bates Numbered Document BPEP_ABB_01597639 and 01597642, Atlantis Field, Supplemental Conservation Information Document (March 2009).

3. Attached hereto as Exhibit 2 is a true and correct copy of Bates Numbered Document BPEP_ABB_00086577, 00086583 and 00086590, Atlantis Project – Application to Design, Fabricate and Install a Platform (Sept. 2002) ("Platform Application").

4. Attached hereto as Exhibit 3 is a true and correct copy of Bates Numbered Document FWW0008511/512, Lease OCS-G 15606.

5. Attached hereto as Exhibit 4 is a true and correct copy of pages from the deposition of B. Domangue dated November 15, 2011.

6. Attached hereto as Exhibit 5 is a true and correct copy of Bates Numbered Document BPEP_ABB_00094892, the Swift Technical Services LLC–Contract for Services.

7. Attached hereto as Exhibit 6 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03455080, Organization Chart Showing Abbott's position.

8. Attached hereto as Exhibit 7 is a true and correct copy of the Bates Numbered Document ABB0015861 and 0015894, April 24, 2009 Letter to U.S. DOJ with attached Plaintiffs' Original Complaint.

9. Attached hereto as Exhibit 8 is a true and correct copy of pages from the Deposition of K. Abbott dated December 16, 2011.

10. Attached hereto as Exhibit 9 is a true and correct copy of the Bates Numbered Document BPEP_ABB_01524673, email from B. Duff to B. Naseman and W. Broman dated August 15, 2008.

11. Attached hereto as Exhibit 10 is a true and correct copy of pages from the Deposition of B. Duff dated September 12, 2011.

12. Attached hereto as Exhibit 11 is a true and correct copy of the Bates Numbered Document BPEP_ABB_01524667/4668, email from B. Duff to A. Gregg and Bill E. Naseman dated August 15, 2008.

13. Attached hereto as Exhibit 12 is a true and correct copy of pages from the Deposition of T. Curtis dated September 12, 2011.

14. Attached hereto as Exhibit 13 is a true and correct copy of the Bates Numbered Document BPEP_ABB_01521407/1409.

15. Attached hereto as Exhibit 14 is a true and correct copy of the Bates Numbered Document MUSTANG ENG 000205 and 000210, Atlantis Records Management Project Execution Plan, Document number 1440-10-AD-PR-0005.

16. Attached hereto as Exhibit 15 is a true and correct copy of pages from the Deposition of W. Naseman dated November 30, 2011.

17. Attached hereto as Exhibit 16 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03463083, 03463088, 03453108 and 03453109, BP Ombudsman Employee Concerns Program, Confidential Investigation Report, Case No: 2009-005.

18. Attached hereto as Exhibit 17 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00115572/5574, letter from Rep. Grijalva (U.S. Congress) to E. Birnbaum (MMS) dated February 24, 2010.

19. Attached hereto as Exhibit 18 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00115575, letter from MMS to Rep. Grijalva (House of Rep) dated March 26, 2010.

20. Attached hereto as Exhibit 19 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00082829/2830, letter from M. Saucier (MMS) to S. Todd (BP) dated July 21, 2010.

21. Attached hereto as Exhibit 20 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00115564/5566, letter from S. Todd (BP) to M. Saucier (MMS) dated Aug. 9, 2010.

22. Attached hereto as Exhibit 21 is a true and correct copy of pages from the Deposition of D. Sustala dated September 19, 2011.

23. Attached hereto as Exhibit 22 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00086984, letter from T. Laurendine for D. Howard, MMS, to D. Sustala, BP dated December 12, 2002.

24. Attached hereto as Exhibit 23 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00086986/6989, letter from D. Sustala, BP, to D. Howard, MMS, dated January 27, 2003.

25. Attached hereto as Exhibit 24 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00087025, email from T. Laurendine for D. Howard, MMS, to D. Sustala, dated February 25, 2003.

26. Attached hereto as Exhibit 25 is a true and correct copy of the Bates Numbered Document BPEP_ABB_04076454/6455, 04076462 and 04076464, DSME Contract dated Sept. 1, 2001, § 1.3 "Engineering and Design."

27. Attached hereto as Exhibit 26 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00087049/7050, email from T. Laurendine, MMS, to D. Sustala, BP dated January 16, 2005.

28. Attached hereto as Exhibit 27 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00087685, letter from A. Shah for Lars T. Herbst, MMS, to D. Sustala, BP, dated January 16, 2007.

29. Attached hereto as Exhibit 28 is a true and correct copy of pages from the Deposition of D. Sustala dated May 10, 2011.

30. Attached hereto as Exhibit 29 is a true and correct copy of pages from the Deposition of K. DeJohn dated September 14, 2011.

31. Attached hereto as Exhibit 30 is a true and correct copy of pages from the Deposition of S. Todd dated December 5, 2011.

32. Attached hereto as Exhibit 31 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00111486, 00111493 and 00111525, Atlantis Project Floating Systems Team Project Execution Plan.

33. Attached hereto as Exhibit 32 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00112443, email from D. Sustala, BP, and L. Pekel, ABS, dated November 26, 2002 (1:56PM).

34. Attached hereto as Exhibit 33 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00112441/2442, email from D. Sustala to L. Pekel dated November 26, 2002 (4:28PM).

35. Attached hereto as Exhibit 34 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00112440, email from D. Sustala to L. Pekel dated November 26, 2002 (4:38PM).

36. Attached hereto as Exhibit 35 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00112401/2402, email from L. Pekel to D. Sustala dated December 6, 2002 (11:53AM).

37. Attached hereto as Exhibit 36 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00112426/2427, email exchange between P. Ganguly, Millennium Technical Consultants, and D. Sustala, BP, dated November 29, 2002.

38. Attached hereto as Exhibit 37 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00112616, email from D. Sustala, BP, to P. Ganguly, Millennium Technical Consultants dated October 24, 2002.

39. Attached hereto as Exhibit 38 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00112450/2452, email from S. Kinnaman to D. Sustala dated November 22, 2002.

40. Attached hereto as Exhibit 39 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00112629/2630, email from B. Thurmond to D. Sustala dated October 23, 2002.

41. Attached hereto as Exhibit 40 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00112524/2526, email from D. Sustala to K. Jansson, GVA, dated October 24, 2002.

42. Attached hereto as Exhibit 41 is a true and correct copy of pages from the Deposition of R. Peloubet dated September 9, 2011.

43. Attached hereto as Exhibit 42 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00112627, email from D. Sustala to J. Faulker dated October 24, 2002.

44. Attached hereto as Exhibit 43 is a true and correct copy of the Bates Number Document BPEP_ABB_00112508, email from R. Phillips to D. Sustala dated October 25, 2002.

45. Attached hereto as Exhibit 44 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00112453/2454, email from D. Sustala dated November 21, 2002.

46. Attached hereto as Exhibit 45 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00110497/0499, email from D. Sustala (BP) to S. Kinnaman (Mustang) dated March 24, 2004.

47. Attached hereto as Exhibit 46 is a true and correct copy of pages from the Deposition of F. Ragan taken September 8, 2011.

48. Attached hereto as Exhibit 47 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00110014/0015, email from F. Ragan to K. DeJohn, L. Osborn and D. Sustala dated November 12, 2005.

49. Attached hereto as Exhibit 48 is a true and correct copy of the pages from the Deposition of G. Malone taken August 30, 2011.

50. Attached hereto as Exhibit 49 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03493064, email from C. Ward to K. Smith (Hull arrives in Corpus Christi from Korea on May 25, 2005; integration ran from May 2005 through August 2006) dated August 30, 2010.

51. Attached hereto as Exhibit 50 is a true and correct copy of pages from the Deposition of J. Upchurch taken October 4, 2011.

52. Attached hereto as Exhibit 51 is a true and correct copy of pages from the Deposition of R. Berger taken September 15, 2011.

53. Attached hereto as Exhibit 52 is a true and correct copy of the Bates Numbered Document BPEP_ABB_01524687/4688, email from B. Naseman to A. Taylor attaching FST Handover Schedule dated March 5, 2008.

54. Attached hereto as Exhibit 53 is a true and correct copy of pages from the Deposition of L. Osborn taken September 21, 2011.

55. Attached hereto as Exhibit 54 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00115909 and BPEP_ABB_00115917, Specification for Data and Information Handover from Projects into Operations, 1400-85-IM-SP-8700.

56. Attached hereto as Exhibit 55 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03500136 and BPEP_ABB_03500143, Atlantis Engineering Workflow Process.

57. Attached hereto as Exhibit 56 is a true and correct copy of the Bates Numbered Document BPEP_ABB_01631097, BPEP_ABB_01631100 and BPEP_ABB_01631106, Document Control Procedure, ssproj-10-PCPR-000001.

58. Attached hereto as Exhibit 57 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03505121 and BPEP_ABB_03505126, Contractor Document Control Procedure, 1400-10-AD-PR-0219.

59. Attached hereto as Exhibit 58 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03505155 and BPEP_ABB_03505159/5160, MEI Document Control Procedure, 1400-10-AD-PR-0214.

60. Attached hereto as Exhibit 59 is a true and correct copy of the Bates Numbered Document BPEP_ABB_01453338 and BPEP_ABB_01453359/3374, Project Orientation and Procedures Manual, 1440-21-POPM-PR-0001.

61. Attached hereto as Exhibit 60 is a true and correct copy of the Bates Numbered Document MUSTANG ENG 000001, MUSTANG ENG 000072 and MUSTANG ENG 000090, Topsides Design Engineering and Project Services Contract, Ex. A "Scope of Work," Section 2.3.4.1.

62. Attached hereto as Exhibit 61 is a true and correct copy of the Bates Numbered Document T-USA 000001 and T-USA 000056, Well Systems Integrations and Design Services Engineering Contract, Ex. A "Scope of Work," Section 11.6.

63. Attached hereto as Exhibit 62 is a true and correct copy of pages from the Deposition of R. Malone taken September 13, 2011.

64. Attached hereto as Exhibit 63 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03534372/4379, Finance Memo.

65. Attached hereto as Exhibit 64 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03534380, BPEP_ABB_03534382, BPEP_ABB_03534384, BPEP_ABB_03534386, BPEP_ABB_03534388, BPEP_ABB_03534390 and BPEP_ABB_03534392, GoM Atlantis South Supplementary FM and Atlantis Phase 2 Strategy.

66. Attached hereto as Exhibit 65 is a true and correct copy of the Atlantis South Supplement Cost Estimate Summary previously marked as Discovery Exhibit No. 347 in this case.

67. Attached hereto as Exhibit 66 is a true and correct copy of pages from the Deposition of W. Naseman taken November 30, 2011.

68. Attached hereto as Exhibit 67 is a true and correct copy of Bates Numbered Document BPEP_ABB_00091459, email from B. Naseman to W. Broman and B. Duff dated April 25, 2008.

69. Attached hereto as Exhibit 68 is a true and correct copy of the Bates Numbered Document BPEP_ABB_01519199/9200, email from B. Duff to A. Gregg, M. Garland and T. Curtis dated May 6, 2008.

70. Attached hereto as Exhibit 69 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00089380, email exchange from G. Imm to R. Berger dated May 13, 2008.

71. Attached hereto as Exhibit 70 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00115759/5760, email from R. Peloubet to S. Todd dated April 20, 2010.

72. Attached hereto as Exhibit 71 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03482184/2185, email from N. Oza (BP) to S. Berg (Technip) dated July 22, 2008.

73. Attached hereto as Exhibit 72 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03505962/5963, email from L. Osborn (Mustang) to M. Garland (BP) dated May 12, 2009.

74. Attached hereto as Exhibit 73 is a true and correct copy of pages from the Deposition of S. Todd taken May 9, 2011.

75. Attached hereto as Exhibit 74 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00115609 and BPEP_ABB_00115620, email from S. Todd (BP) to B. Domangue (MMS), dated July 3, 2010 (with Power Point presentation attached stating that BP followed its Specification for Handover).

76. Attached hereto as Exhibit 75 is a true and correct copy of the Bates Numbered Document BPEP_ABB_01622474. Email from B. Domangue to D. Sustala dated August 20, 2010.

77. Attached hereto as Exhibit 76 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00082845/2846, email from S. Todd (BP) to B. Domangue dated August 25, 2010.

78. Attached hereto as Exhibit 77 is a true and correct copy of the Title page and pages 7-8 of API RP 14C (Sec. 3.2 and 3.4(e)).

79. Attached hereto as Exhibit 78 is a true and correct copy of Bates Numbered Document FWW0018028/18029, email from W. Hauser to Z. Corrigan dated February 17, 2010.

80. Attached hereto as Exhibit 79 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00085724/5727, letter from B. Domangue, MMS, to D. Sustala, BP, dated May 3, 2007.

81. Attached hereto as Exhibit 80 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00085234, Professional Engineering Statement (Item 5).

82. Attached hereto as Exhibit 81 is a true and correct copy of the Bates Numbered Document BPEP_ABB_01598219/8220, letter from D. Sustala, BP, to Michael Saucier dated February 23, 2005.

83. Attached hereto as Exhibit 82 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00084533/4534, letter from D. Sustala to M. Saucier dated February 25, 2005.

84. Attached hereto as Exhibit 83 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00084932/4933, letter from D. Sustala to M. Saucier dated August 1, 2005.

85. Attached hereto as Exhibit 84 is a true and correct copy of *The Professional Engineering* (Nat'l So. Prof. Eng. July 2007).

86. Attached hereto as Exhibit 85 is a true and correct copy of Bates Numbered Document BPEP_ABB_00082852/2854, email from B. Domangue (MMS) to S. Todd (BP) dated August 31, 2010.

87. Attached hereto as Exhibit 86 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00110518/0519, email from R. Phillips to D. Sustala, J. Hart and L. Osborn dated January 29, 2004.

88. Attached hereto as Exhibit 87 is a true and correct copy of pages from BP Native File Bates Numbered Document BPEP_ABB_00854373 (Title Page and Page 29 of 35), System Certification Package, 1440-35-SB-SP-3033_ATS_SIC_Rev0.doc (contained within TS Subsea Control System 956, Document Number 1440-20-CM-PR-956-8001).

89. Attached hereto as Exhibit 88 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00110497/0499, email from D. Sustala (BP) to S. Kinnaman (Mustang) dated March 24, 2004.

90. Attached hereto as Exhibit 89 is a true and correct copy of the Bates Numbered Document BPEP_ABB_05211191/1193, email from D. Sustala (BP) to A. Laplante (BP) dated March 25, 2004.

91. Attached hereto as Exhibit 90 is a true and correct copy of the Bates Numbered Document T-USA 001407 and T-USA 001419, BP Well Integration and Design Engineering Atlantis Sealing Plan § 3.3.

92. Attached hereto as Exhibit 91 is a true and correct copy of pages from the deposition of D. Elmer dated September 14, 2011.

93. Attached hereto as Exhibit 92 is a true and correct copy of pages from the Deposition of G. Stevick taken December 20, 2011.

94. Attached hereto as Exhibit 93 is a true and correct copy of Bates Numbered Document FWW0008573 and FWW0008620, Site-Specific Environmental Assessment (SEA) No. N-7646 at E-2 (April 17, 2003).

95. Attached hereto as Exhibit 94 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03534711 and BPEP_ABB_03534784, DOCD, Environmental Impact Statement § 8.3.

96. Attached hereto as Exhibit 95 is a true and correct copy of pages from the Deposition of R. Pierce taken December 1, 2011.

97. Attached hereto as Exhibit 96 is a true and correct copy of the Bates Numbered Document BPEP_ABB_04147184 and BPEP_ABB_04147199, Gulf of Mexico SPU-Atlantis, S&O Audit, 30 November 2009 to 11 December 2009 – Entity Verifiable Findings, Audit 0935.

98. Attached hereto as Exhibit 97 is a true and correct copy of BPEP_ABB_04147214 and BPEP_ABB_04147241, Audit Report, Safety & Operations Audit, Final Report 13 January 2010.

99. Attached hereto as Exhibit 98 is a true and correct copy of the Bates Numbered Document BPEP_ABB_02828782/8789 and BPEP_ABB_02828796, Worley Parsons Atlantis PSV-41003 Sizing Check Calculation, August 19, 2010.

100. Attached hereto as Exhibit 99 is a true and correct copy of the Bates Numbered Document BPEP_ABB_04135740, Root Cause Failure Analysis Report – Gas Turbine Generator ZAN-5000 Shutdown.

101. Attached hereto as Exhibit 100 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03514575, email from F. Ragan to W. Dean (Technip) dated February 11, 2008.

102. Attached hereto as Exhibit 101 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03502155/2156, email from S. Maxwell to R. Oneta dated September 22, 2007.

103. Attached hereto as Exhibit 102 is a true and correct copy of pages from the Deposition of S. Cotton taken December 14, 2011.

104. Attached hereto as Exhibit 103 is a true and correct copy of BP Native File Bates Numbered Document BPEP_ABB_02832882, Piping and Instrument Diagram, Pipeline Pumps (Drawing No. 1440-20-PI-DG-4389).

105. Attached hereto as Exhibit 104 is a true and correct copy of Bates Numbered Document BPEP_ABB_03579591/9592, email from R. Berger to B. Broman dated August 26, 2008.

106. Attached hereto as Exhibit 105 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03359747/9757, Safety Shutdown Logic Drawings, BP Document Numbers 1440-35-SB-DG-3021 through 3030.

107. Attached hereto as Exhibit 106 is a true and correct copy of pages from the Deposition of K. Angel taken December 14, 2011.

108. Attached hereto as Exhibit 107 is a true and correct copy of List of BP Controls Malfunctions Documents and Listed Documentation.

109. Attached hereto as Exhibit 108 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03512831, email from B. Young to N. Oza and R. Berger dated January 3, 2008.

110. Attached hereto as Exhibit 109 is a true and correct copy of the Bates Numbered Document BPEP_ABB_04125309, email from N. Oza re: FW Subsea vavles (sic) opening without requested, dated January 7, 2008.

111. Attached hereto as Exhibit 110 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03559672/9673, email from W. Broman to N. Oza dated January 7, 2008.

112. Attached hereto as Exhibit 111 is a true and correct copy of pages from the Deposition of R. Berger taken November 2, 2011.

113. Attached hereto as Exhibit 112 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03626944/6945, email from J. Little re: DC122 Shut in, dated August 10, 2008.

114. Attached hereto as Exhibit 113 is a true and correct copy of the Bates Numbered Document BPEP_ABB_02895422/5423, Functional Design Specification for the Master Control Station, Subsea Control Unit, BP Doc. No. 1440-35-SB-SP-0030.

115. Attached hereto as Exhibit 114 is a true and correct copy of the Bates Numbered Document BPEP_ABB_02408632, Subsea Control System Cause and Effects, BP Doc. No. 1440-35-SB-RP-0114.

116. Attached hereto as Exhibit 115 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03244795, Master Control Station Site Integration Test, BP Doc. No. 1440-35-SB-PR-0130.

117. Attached hereto as Exhibit 116 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00087921 (and internal pages 10-19 through 10-22), Preliminary Deepwater Operations Plan, dated June 21, 2004.

118. Attached hereto as Exhibit 117 is a true and correct copy of pages from the Deposition of L. Holzenthal taken December 13, 2011.

119. Attached hereto as Exhibit 118 is a true and correct copy of the Bates Numbered Document BPEP_ABB_04135705/5709, email from S. Cotton to K. DeJohn and F. Ragan re: FW: Atlantis update, dated August 5, 2008.

120. Attached hereto as Exhibit 119 is a true and correct copy of the Bates Numbered Document BPEP_ABB_04135730, email from S. Cotton to Waterhouse re: Subsea Comms MOC-08-218 Hazard Review, dated October 28, 2008.

121. Attached hereto as Exhibit 120 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03498616/8618, email from R. Peloubet re: Operations Managers Meeting and Higher dated January 22, 2007.

122. Attached hereto as Exhibit 121 is a true and correct copy of pages from the Deposition of W. Castell dated June 22, 2011.

123. Attached hereto as Exhibit 122 is a true and correct copy of pages from the Deposition of G. Cowlam dated June 7, 2011.

124. Attached hereto as Exhibit 123 is a true and correct copy of pages from the Deposition of S. Newman dated September 30, 2011.

125. Attached hereto as Exhibit 124 is a true and correct copy of pages from the Deposition of P. Campbell dated July 12, 2011.

126. Attached hereto as Exhibit 125 is a true and correct copy of pages from the Deposition of R. Turlak dated September 28, 2011.

I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct.

Executed this 4th day of April 2012, in Washington, D.C.

/s/ Mary Whittle
Mary Whittle

EXHIBIT 1

BP Exploration and Production Inc. – Unit Operator
Green Canyon Block 743 Unit
Unit Agreement Number 754305003
GC699, GC700, GC742, GC743, GC744

Green Canyon Block 743 Unit
Atlantis Field

Supplemental Conservation Information Document

"Confidential"

Submitted: 3/31/09

bp

bhpbilliton
resourcing the future

1.0 INTRODUCTION

The Atlantis field, in Southern Green Canyon protraction area, covers a five block area currently held by unit agreement contract number 754305003, approved April, 2005 (Fig 1-1). The original Conservation Information Document (CID) for the field was approved July, 2003, a revision was approved May, 2006, and another revision was approved in 2007 for the DC313-ST1 single well tieback. Complementary DOCDs have been approved for all CID activities, and a Supplemental DOCD will be submitted in 2Q09 to address changes requested in this document. The approved development plan for the field is a subsea development with 16 production and 4 water injection wells at the Drill Center 1 (DC1) location on GC743, in addition to one production well at the DC3 location also on GC743. DC1 production flows through five flowlines to a semi-submersible production facility that is anchored on GC787 via a Right of Use and Easement (RUE) agreement. Atlantis carries a long term contract with the Transocean DDII dynamically positioned drilling rig which has drilled most of the producers at DC1. The newly built Transocean DDIII rig will be added to the field in late 2009 to begin drilling additional wells at the DC3 location. In addition to the primary wellbores, the approved development plan included 3 sidetracks, 6 recompletions, and 1 deepening.

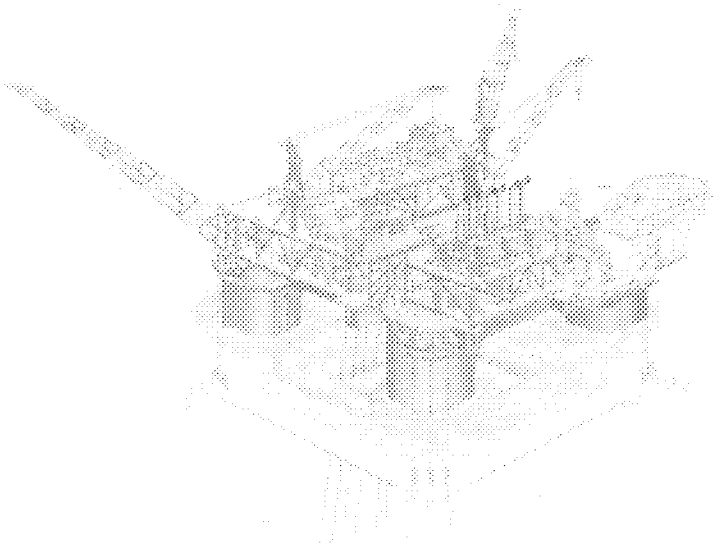
REDACTED

Following the installation of the Atlantis production facility and subsea installation of Manifold 1 at the DC1 location, the Atlantis GC743 Unit Field went on production October 6, 2007. Six wells were producing by mid-January 2008, with two additional wells online by June, 2008. The ninth and tenth development wells were drilled late-2008 and will come online in 2009. A new seismic data set (Ocean Bottom Seismic, OBS) was acquired in 2006 and has provided better image quality over the entire field.

Incorporation of incremental drilling and production data, along with revised interpretations of the new seismic data set has led to changes in the operator's geologic interpretation of the field in the approved development area. The operator has also identified new resource areas for development across the entire structure. Furthermore, in response to the availability of subsea infrastructure at the time of drilling, a few target zones have been reassigned to new well slot numbers. Due to these changes, the operator has issued this document to explain the requested modifications to the approved development plan.

EXHIBIT 2

Application to Design, Fabricate and Install a Platform Including Platform Verification Plan (PVP) And Nomination of Certified Verification Agent (CVA)



Green Canyon Block 787, Platform A
Floating Production System, Semi Submersible
Production Quarters (PQ)

BP Exploration & Production Inc.
Atlantis Project

September 17, 2002

Redacted

Inspection Circulars (NVIC) 10-82, Change 2, and 3-97. Under the provisions of these NVICs, BP has sought the services of American Bureau of Shipping (ABS), to

"Class" the floating structure, and thereby be the designated party for the review of plans and structural stability.

The American Bureau of Shipping will class the Atlantis hull and moorings systems as a Floating Offshore Installation (FOI). BP has executed a contract with ABS to provide the required services through design, fabrication and installation activities for assurance that the facility will comply with world recognized and respected standards. The U.S. Coast Guard (USCG) has approved our request under NVIC 10-82, Change 2, for ABS plan review and inspection, as well as given us approval to allow ABS to evaluate the stability of the floating system in accordance with the provisions of NVIC 3-97.

1.1.3 Memorandum of Understanding Between MMS and USCG

From the structural integrity view, the Memorandum of Understanding Between MMS and USCG (MOU) dated December 16, 1998 delineates the structural integrity and mooring and tethering of non-ship-shape floating systems as a joint jurisdiction. The MOU requires that all design, fabrication and installation activities be reviewed by both agencies. For station keeping activities, site specific mooring analyses is a joint jurisdiction, but the MMS has an additional jurisdiction over foundation specific activities. For floating structures, the foundation specific activities relate to the design, installation and performance of the mooring line anchors.

1.1.4 Relationship to ABS Classing Activities

The ABS classing activities ensure that the hull and mooring are designed, fabricated and installed in conformance with the ABS Class Rules. The guidelines of the American Petroleum Institute (API) for design and construction are also applicable. From the MOU requirement perspective, all structural requirements are deemed to be met if the vessel is classed. Thus, for a classed structure, additional specific tasks related to the assurance plan as required by the MMS calls for a review of the mooring foundation design, fabrication and installation aspects, and a site specific mooring analyses review.

1.2 Atlantis Project Information

1.2.1 Location of Project

The proposed Atlantis project area is located along the Sigsbee Escarpment approximately 185 miles south of New Orleans. The field is part of the Southern Green Canyon (GC) trend.

1.2.2 Leases in the Project Area

BP Exploration & Production Inc. and BHP Billiton Petroleum (Americas) Inc. hold working interests under a joint operating agreement in seven leases that are collectively referred to as the "Atlantis Project Area." The Atlantis project area currently comprises Green Canyon Blocks 698, 699, 700, 701, 742; 743, and 744, OCSG 15603, 15604, 15605, 16779, 15606, 15607, and 15608, respectively. BP is the designated operator of the Atlantis project.

Redacted

2.4.6 Fatigue Analysis - 30 CFR 250.901 (b)(4)(vi)
A summary of fatigue assessment will be made available to the Design CVA upon completion of the design phase.

2.5 Submittal of Exploration Plans and DOCD – 30 CFR 250.901 (c)
BP has submitted New, Revised, and Amended Exploration Plans for various operations that have been completed or that are ongoing in the Atlantis project area. In addition, BP expects to submit a Development Operations Coordination Document (DOCD) by the fourth quarter 2002, that will describe proposed development operations including the installation of the proposed platform.

2.6 Certification Statement – 30 CFR 250.901 (d)
Detailed structural plans required by 30 CFR 250.901(b)(1)(iii) and specifications for the new platform will be certified by a registered professional structural engineer, civil engineer specializing in structural design, naval engineer, or other structural designers having advanced professional certifications.

Upon completion of all design activities, BP as Lessee, will be able to submit a sign, dated certification statement similar to the following found in 30 CFR 250.9019(d): "Lessee certifies that the design of the structure/ modification has been certified by a registered professional structural or civil engineer specializing in structural design, and the structure/ modification will be fabricated, installed, and maintained as described in the application and any approved modification thereto. Certified design and as built plans and specification will be on file at BP's Houston Office. "

2.7 Notification prior to Installation – 30 CFR 250.901 (e)
The MMS Office of the Regional Supervisor, will be notified at least one week prior to transporting to the installation site any components of the structure including mooring components.

Redacted

EXHIBIT 3

Form MMS-2005 (March 1986)
(Supersedes MMS-2005 August 1982)

UNITED STATES
DEPARTMENT OF THE INTERIOR
MINERALS MANAGEMENT SERVICE

OIL AND GAS LEASE OF SUBMERGED LANDS UNDER THE OUTER CONTINENTAL SHELF LANDS ACT

This form does not constitute an information collection as defined by 44 U.S.C. 3502 and therefore does not require approval by the Office of Management and Budget.

Office	Serial number
New Orleans, LA	**OCS-G 15606**
Cash bonus	Rental rate per acre, hectare or fraction thereof
$435,775.00	**$5.00 per acre**
Minimum royalty rate per acre, hectare or fraction thereof	Royalty rate
$5.00 per acre	**12 1/2 percent**
	Profit share rate

This lease is effective as of JUL 1 1995 (hereinafter called the "Effective Date") and shall continue for an initial period of **ten** years (hereinafter called the "Initial Period") by and between the United States of America (hereinafter called the "Lessor"), by the **Regional Director, Gulf of Mexico OCS Region,** Minerals Management Service, its authorized officer, and

BHP Petroleum (Americas) Inc.	**44.0%**
BP Exploration & Oil Inc.	**56.0%**

(hereinafter called the "Lessee"). In consideration of any cash payment heretofore made by the Lessee to the Lessor and in consideration of the promises, terms, conditions, and covenants contained herein, including the Stipulation(s) numbered attached hereto, the Lessee and Lessor agree as follows:

Sec. 1. Statutes and Regulations. This lease is issued pursuant to the Outer Continental Shelf Lands Act of August 7, 1953, 67 Stat. 462; 43 U.S.C. 1331 et seq., as amended (92 Stat. 629), (hereinafter called the "Act"). The lease is issued subject to the Act; all regulations issued pursuant to the Act and in existence upon the Effective Date of this lease; all regulations issued pursuant to the statute in the future which provide for the prevention of waste and conservation of the natural resources of the Outer Continental Shelf and the protection of correlative rights therein; and all other applicable statutes and regulations.

Sec. 2. Rights of Lessee. The Lessor hereby grants and leases to the Lessee the exclusive right and privilege to drill for, develop, and produce oil and gas resources, except helium gas, in the submerged lands of the Outer Continental Shelf containing approximately **5760.00** acres hectares (hereinafter referred to as the "leased area"), described as follows:

All of Block 742, Green Canyon, OCS Official Protraction Diagram, NG 15-3.

RECEIVED
JUN 8 1995
MINERALS MANAGEMENT SERVICE
LEASING & ENVIRONMENT

These rights include:

(a) the nonexclusive right to conduct within the leased area geological and geophysical explorations in accordance with applicable regulations;

(b) the nonexclusive right to drill water wells within the leased area, unless the water is part of geopressured-geothermal and associated resources, and to use the water produced therefrom for operations pursuant to the Act free of cost, on the condition that the drilling is conducted in accordance with procedures approved by the Director of the Minerals Management Service or the Director's delegate (hereinafter called the "Director"); and

(c) the right to construct or erect and to maintain within the leased area artificial islands, installations, and other devices permanently or temporarily attached to the seabed and other works and structures necessary to the full enjoyment of the lease, subject to compliance with applicable laws and regulations.

Sec. 3. Term. This lease shall continue from the Effective Date of the lease for the Initial Period and so long thereafter as oil or gas is produced from the leased area in paying quantities, or drilling or well reworking operations, as approved by the Lessor, are conducted thereon, or as otherwise provided by regulation.

Sec. 4. Rentals. The Lessee shall pay the Lessor, on or before the first day of each lease year which commences prior to a discovery in paying quantities of oil or gas on the leased area, a rental as shown on the face hereof.

Sec. 5. Minimum Royalty. The Lessee shall pay the Lessor, at the expiration of each lease year which commences after a discovery of oil and gas in paying quantities, a minimum royalty as shown on the face hereof or, if there is production, the difference between the actual royalty required to be paid with respect to such lease year and the prescribed minimum royalty if the actual royalty paid is less than the minimum royalty.

Sec. 6. Royalty on Production.

(a) The Lessee shall pay a fixed royalty as shown on the face hereof in amount or value of production saved, removed, or sold from the leased area. Gas (except helium) and oil of all kinds are subject to royalty. Any Lessee is liable for royalty payments on oil or gas lost or wasted from a lease site when such loss or waste is due to negligence on the part of the operator of the lease, or due to the failure to comply with any rule or regulation, order, or citation issued under the Federal Oil and Gas Royalty Management Act of 1982 or the Act. The Lessor shall determine whether production royalty shall be paid in amount or value.

(b) The value of production for purposes of computing royalty on production from this lease shall never be less than the fair market value of the production. The value of production shall be the estimated reasonable value of the production as determined by the Lessor, due consideration being given to the highest price paid for a part or for a majority of production of like quality in the same field or area, to the price received by the Lessee, to posted prices, to regulated prices, and to other relevant matters. Except when the Lessor, in its discretion, determines not to consider special pricing relief from otherwise applicable Federal regulatory requirements, the value of production for the purposes of computing royalty shall not be deemed to be less than the gross proceeds accruing to the Lessee from the sale thereof. In the absence of good reason to the contrary, value computed on the basis of the highest price paid or offered at the time of production in a fair and open market for the major portion of like-quality products produced and sold from the field or area where the leased area is situated will be considered to be a reasonable value.

(c) When paid in value, royalties on production shall be due and payable monthly on the last day of the month next following the month in which the production is obtained, unless the Lessor designates a later time. When paid in amount, such royalties shall be delivered at pipeline connections or in tanks provided by the Lessee. Such deliveries shall be made at reasonable times and intervals and, at the Lessor's option, shall be effected either (i) on or immediately adjacent to the leased area, without cost to the Lessor, or (ii) at a more convenient point closer to shore or on shore, in which event the Lessee shall be entitled to reimbursement for the reasonable cost of transporting the royalty substance to such delivery point.

Sec. 7. Payments. The Lessee shall make all payments (rentals, royalties and any other payments required by this lease) to the Lessor by electronic transfer of funds, check, draft on a solvent bank, or money order unless otherwise provided by regulations or by direction of the Lessor. Rentals, royalties, and any other payments required by this lease shall be made payable to the Minerals Management Service and tendered to the Director. Determinations made by the Lessor as to the amount of payment due shall be presumed to be correct and paid as due.

Sec. 8. Bonds. The Lessee shall maintain at all times the bond(s) required by regulation prior to the issuance of the lease and shall furnish such additional security as may be required by the Lessor if, after operations have begun, the Lessor deems such additional security to be necessary.

Sec. 9. Plans. The Lessee shall conduct all operations on the leased area in accordance with approved exploration plans and approved development and production plans as are required by regulations. The Lessee may depart from an approved plan only as provided by applicable regulations.

Sec. 10. Performance. The Lessee shall comply with all regulations and Orders. After due notice in writing, the Lessee shall drill such wells and produce at such rates as the Lessor may require in order that the leased area or any part thereof may be properly and timely developed and produced in accordance with sound operating principles.

Sec. 11. Directional Drilling. A directional well drilled under the leased area from a surface location on nearby land not covered by this lease shall be deemed to have the same effect for all purposes of the lease as a well drilled from a surface location on the leased area. In those circumstances, drilling shall be considered to have been commenced on the leased area when drilling is commenced on the nearby land for the purpose of directionally drilling under the leased area, and production of oil or gas from the leased area through any directional well surfaced on nearby land or drilling or reworking of any such directional well shall be considered production or drilling or reworking operations on the leased area for all purposes of the lease. Nothing contained in this Section shall be construed as granting to the Lessee any interest, license, easement, or other right in any nearby land.

EXHIBIT 4

IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF TEXAS
HOUSTON DIVISION

UNITED STATES OF AMERICA EX REL. KENNETH W. ABBOTT; KENNETH W. ABBOTT, INDIVIDUALLY, AND FOOD & WATER WATCH, INC.;	§	
	§	CIVIL ACTION NO.
VS.	§	4:09-CV-01193
BP EXPLORATION AND PRODUCTION, INC., ET AL;	§	

ORAL AND VIDEOTAPED DEPOSITION OF
BRYAN DOMANGUE
NOVEMBER 15, 2011

ORAL AND VIDEOTAPED DEPOSITION OF BRYAN DOMANGUE, produced as a witness at the instance of the Defendants and duly sworn, was taken in the above styled and numbered cause on Tuesday, November 15, 2011, from 9:09 a.m. to 6:03 p.m., before RENE WHITE MOAREFI, CSR, CRR, RPR in and for the State of Texas, reported by computerized stenotype machine, at the offices of Liskow & Lewis, 701 Poydras Street, Suite 5000, New Orleans, Louisiana, pursuant to the Federal Rules of Civil Procedure and the provisions stated on the record herein.

Watch against BP. Are -- are you aware of that litigation?

A. I am.

Q. Okay. Go ahead and state your name for the record, please.

A. Bryan Domangue.

Q. And, Mr. Domangue, how are you currently employed?

A. I'm employed for the -- by the Bureau of Safety and Environmental Enforcement, Houma District.

Q. Okay. And what is your position with that --

A. District manager.

Q. -- organization? Okay.

I'm going to ask you to let me finish my question before you answer so that she can -- she can record it. And I'll also ask you, Mr. Domangue, if -- if I ask you any questions where you don't understand the question, if you'll let me know and -- and I'll try to rephrase it. Okay?

A. Okay.

Q. The -- the -- what is -- what does the Bureau of Safety and Environmental Enforcement do?

A. They do a lot. What more specifically are you asking?

Q. Okay. Well, is it -- is it -- is it a federal

A. It's a floating facility. It's a -- a PQ, which stands for production and quarters.

Q. And -- and what does it do? What do they do on the Atlantis platform?

A. The Atlantis facility is a -- a production facility only, and it accepts production from a -- a fairly large subsea field.

Q. And are -- are wells drilled from the Atlantis platform?

A. No, they're not.

Q. Do you recall when the Atlantis platform was installed offshore?

A. Somewhere between 2006 to 2007.

Q. Okay. And does -- what is BP's role regarding the Atlantis platform?

A. BP is the designated operator of that facility.

Q. And what does it mean to be the designated operator?

MR. GOODPASTOR: Objection, form.

A. For me, my interpretation of the designated operator, is that they -- they are the responsible party for the operations on board that facility.

Q. (BY MR. HUNTER) Do you recall, Mr. Domangue, when you personally first had any role with respect to the Atlantis platform?

Q. Okay. And has Atlantis been able to produce those volumes of oil safely?

MR. GOODPASTOR: Objection --

A. Yes.

MR. GOODPASTOR: -- form. Outside the scope of the response to the Touhy request. Calls for expert testimony.

THE REPORTER: I'm sorry. I couldn't hear you. Can you repeat it.

MR. GOODPASTOR: It's the same objection I made before. Objection, form. Outside the scope of the response to the Touhy request because it calls for expert testimony.

MR. NESSER: Did you get an answer?

MR. HUNTER: Yes, I did.

Q. (BY MR. HUNTER) Mr. Domangue, let's talk a little more specifically about the Atlantis production safety system. Is that term, "production safety system," a term that you recognize or are familiar with?

A. Yes, production safety system would be an accurate description.

Q. Okay. And what does that refer to?

MR. GOODPASTOR: Same objections.

A. Production safety system refers to the devices utilized to measure and subsequently terminate production

should there be an abnormal detectible condition. Abnormal detectible conditions are those conditions that are outside of the parameters of the normal -- normal readings that you would see where it comes to pressure, temperature, gas levels, what have you.

There's a specific document referred to in the Code of Regulations, which is API RP 14c. API RP 14C requires certain safety devices be put in places along the production system to ensure that the facility is shut down should that device detect an abnormal condition.

And in the case of Atlantis, Atlantis's safety system starts with the subsurface or -- surface control subsurface safety valve located 100 feet below the mud line in each individual well.

The next component of the safety system would be the underwater safety valves, which there are two at each well site. And then as the production makes its way up the flow lines to the facility, the next component in the safety system would be the upstream pressure safety high/low sensor upstream of the boarding shutdown valve, and then there's a multitude -- the bulk of those 285 safety devices that you saw on that inspection form start at the boarding shutdown valve and translate all the way through the production process train out to the pipelines that take the production in to shore.

Q. (BY MR. HUNTER) Okay. And is -- is the boarding shutdown valve and everything after that above the water?

A. Yes.

Q. Okay. So those first few devices you -- you mentioned were subsea, but then starting with the boarding valve, it's all above water?

MR. GOODPASTOR: Objection, form.

Q. (BY MR. HUNTER) Is that right?

A. Yes, the boarding shutdown valve. There are portions of the flow line from the well that are above the water line, but other than the -- the pressure safety high/low sensors associated upstream of that boarding shutdown valve, the only other subsea safety devices would be the surface control subsurface safety valve in the wellbore and the USVs, which are at the wellhead.

So a part of the flow line is above the water, but the first major safety device above the water line would be the -- the boarding PHL sensor and the boarding shutdown valve.

Q. Okay. And is the production safety system subject to regulation?

A. Yes.

Q. And where are those regulations?

A. Contained in 30 CFR and 250.800 --

MR. GOODPASTOR: Objection to form and the

A. This is the production safety system approval letter.

Q. (BY MR. HUNTER) Okay. And who signed it?

A. That's the first thing I looked at. I did.

Q. Okay. Over Michael J. Saucier's --

A. Yes, at the time --

Q. -- name?

A. -- he was district manager.

Q. Okay. So why did you sign this?

A. Because I was the production engineer, and I was responsible for the oversight of the safety system on this facility.

Q. Okay. If you --

A. And -- and I had that delegation of authority through Mr. Saucier to sign on his behalf.

Q. Okay. So that was your role in the process of approving BP's production safety system for Atlantis was the basis for you signing this; is that right?

A. Restate your --

Q. Yeah, that was a bad question.

Why don't you tell us: What was your role in terms of the regulation of -- of the Atlantis production safety system and more specifically in terms of -- of arriving at the point where it could be approved under the regulations?

A. Okay. Well, leading up to this obviously you've seen that there's been many preproduction inspections that have occurred. The preproduction inspections that we do, we utilize primarily three documents: We utilize a process flow diagram, we utilize a S.A.F.E. chart, which are the two documents. So a -- a process flow diagram and a S.A.F.E. chart are two documents that are required by the regulations to be submitted and approved per the regulations and according -- subject to API RP 14c.

However, over the years we've utilized P&IDs in our preproduction walk-throughs to ensure that the process flow diagrams were drawn up accurately. And so the P&ID is utilized primarily because it allows you -- the P&IDs are more accurate where it comes to the location of safety devices specifically where they're located.

So in -- in utilizing the P&IDs, bumping that against the process flow diagram and the S.A.F.E. chart, we analyzed the facility as it relates to API RP 14c and Subpart H of the regulations. So the whole process that was initiated with the preproduction inspections all the way through the review of the process flow diagram and the S.A.F.E. chart is what pushes us to grant an approval based off of Subpart H of the regulations.

So this right here, this letter, is the

culmination of all the work we've done from the preproduction inspections all the way through to the final inspection and final review of the process flow diagram and the S.A.F.E. -- the S.A.F.E. chart.

So this -- this is acknowledging that we believe that they're ready for first oil, they're ready to open the valves and -- and put hydrocarbons into the system, and it's acknowledging that we believe that they're in total compliance with Subpart H of the regulations.

Q. And -- and were you involved in all of those steps you just described, the inspections, the reviews of the -- of the S.A.F.E. charts and process flow diagrams and P&IDs, were you involved in every step of the way?

A. Yes.

Q. And was BP able to provide the documentation that you required in order to issue this approval?

MR. GOODPASTOR: Objection, form; outside of the scope --

A. Yeah.

MR. GOODPASTOR: -- of the Touhy response.

A. Yes.

Q. (BY MR. HUNTER) Subject -- BP was able to provide --

A. Yes.

the design for the mechanical and electrical systems to be installed were approved by registered professional engineers."

Did I read that accurately?

A. Yes.

Q. Okay. When you issued the letter dated May 3, 2007, which is Domangue Exhibit 12, did your regulatory approval in that May 3, 2007 letter include a decision about whether BP had complied with this certification requirement?

MR. GOODPASTOR: Objection to form; objection, outside the response of the Touhy request; and calls for an expert opinion.

A. This letter is the final approval letter that we issued. At some point during the process, BP issued a statement according to that first sentence where they maintained to us that they had used -- that they were certifying that they had used registered professional engineers. So we -- in our possession at the time, we had a statement from BP acknowledging that.

Q. (BY MR. HUNTER) So when the May 3, 2007 approval letter says that the intent of all applicable regulations are maintained, did that include the intent of this regulation, 30 CFR 250.802(e)(5)?

MR. GOODPASTOR: Same objections.

A. Yes.

Q. Okay. And then if you look at Exhibit 15, the second page, I think you'll find as similar language.

A. Yes.

Q. Okay. Are these the certifications of compliance -- are these -- strike that.

Are these certifications in the February 25, 2005 letter and the August 1, 2005 letter the certifications that the federal government accepted as complying with the regulations?

A. Well, I mean, you know, if you go back to that regulation, there's actually two parts to that -- to that statement. "The certification of the design for the mechanical/electrical systems to be installed were approved by registered professional engineers." That language that you see in both these letters where it talks about BP certifying the design for the mechanical electrical systems to be installed were completed under the supervision of registered professional engineers, that covers the first sentence of that certification.

Traditionally the way we've handled the second sentence in that -- that paragraph where it says, "After the systems are installed, the lessee shall submit a statement to the district supervisor certifying that the new installations conform to the approved designs of its

subpart."

Is -- the old process that we go through with preproduction inspections, we never -- at least in the district that I work in in the Houma district, we never required BP to submit a separate statement. We approved the designs of the subpart by doing all of our preproduction inspections.

So until we're satisfied that they've conformed to everything that's listed in Subpart H, we won't approve that letter. So you were -- you were -- in looking at the approval letter and then subsequently looking at that statement, it's a combination of us seeing that certification statement from them and then performing all of our inspections to verify -- physically go out there and verify that they've complied with all the regulations according to Subpart H.

MR. GOODPASTOR: Objection --

A. So --

MR. GOODPASTOR: -- nonresponsive to the question.

A. Okay. But that is what -- how we come to the conclusion they've complied with this particular portion of the regulation.

Q. (BY MR. HUNTER) Okay.

MR. GOODPASTOR: Same objection.

subpart."

Is -- the old process that we go through with preproduction inspections, we never -- at least in the district that I work in in the Houma district, we never required BP to submit a separate statement. We approved the designs of the subpart by doing all of our preproduction inspections.

So until we're satisfied that they've conformed to everything that's listed in Subpart H, we won't approve that letter. So you were -- you were -- in looking at the approval letter and then subsequently looking at that statement, it's a combination of us seeing that certification statement from them and then performing all of our inspections to verify -- physically go out there and verify that they've complied with all the regulations according to Subpart H.

MR. GOODPASTOR: Objection --

A. So --

MR. GOODPASTOR: -- nonresponsive to the question.

A. Okay. But that is what -- how we come to the conclusion they've complied with this particular portion of the regulation.

Q. (BY MR. HUNTER) Okay.

MR. GOODPASTOR: Same objection.

letters dated February 1, 2005, and August 1, 2005, with BP's presentation of the as-installed components and the government's inspections all combine to support your conclusion that BP complied with 250.802(e)(5); is that right?

MR. GOODPASTOR: Same objections.

A. Yes.

Q. (BY MR. HUNTER) Okay. You'll see in these letters dated February 25, 2005, and August 1, 2005, that there are drawings and -- and other engineering documents in there?

A. So Exhibit 15 -- okay.

Q. Okay. Do those drawings submitted with that application, were those drawings stamped by registered professional engineers?

MR. GOODPASTOR: Same objection.

A. It's hard to -- it's hard to tell whether they were or -- or were not. But the -- the documents that we approved, meaning the process flow diagrams and the S.A.F.E. charts, they were not stamped by registered professional engineers.

So going back to the approval for Atlantis, the process flow diagram and S.A.F.E. charts were not -- or the safety equipment layouts or the electric one-line diagrams, they were not stamped by registered professional

engineers.

Q. (BY MR. HUNTER) Okay. And those are documents that were required to be filed pursuant to the regulations?

A. Yes.

MR. GOODPASTOR: Same objections.

Q. (BY MR. HUNTER) Okay. And it was obvious to you as the regulator reviewing these documents that they were not stamped by professional engineers; is that right?

MR. GOODPASTOR: Same objections.

A. Yes.

Q. (BY MR. HUNTER) Okay. BP did not conceal that it was seeking approval of the Atlantis production safety system based on drawings and documents that did not have PE stamps, right?

MR. GOODPASTOR: Same objections.

Q. (BY MR. HUNTER) And BP was open about that, right?

MR. GOODPASTOR: Same objections.

A. At no time did BP try to divert my attention from the fact that they weren't to be stamped.

Q. (BY MR. HUNTER) Okay. So you knew during the review process that these documents required by the regulations that BP filed were not stamped by registered professional engineers; is that right?

A. I was aware of that --

MR. GOODPASTOR: Same objection.

A. -- yes.

Q. (BY MR. HUNTER) Okay. You were -- you were aware of that?

A. I was.

MR. GOODPASTOR: Same objections.

Q. (BY MR. HUNTER) Okay.

(Exhibit 16 marked.)

Q. (BY MR. HUNTER) Mr. Domangue, I've handed you a document that I've marked Domangue Exhibit 16.

I want to see if you recall what that is.

A. This is a document that we produced after the review of the Atlantis S.A.F.E. charts and flow schematics.

Q. Okay. And what -- what is the attachment that comes after the first page? So the first page is an e-mail?

A. Yes.

Q. Okay. And it's from you to Dennis Sustala?

A. Yes.

Q. Okay. And then what's attached to that e-mail?

A. Microsoft Excel -- again, very similar to the preproduction inspections. It's a document that we generated in Excel that indicates to BP the discrepancies

looked at some of the correspondence with BP and -- and the punch lists. Did you have other communications with BP about BP's production safety system application for Atlantis?

A. I'm -- I'm sure that I did. I mean, I can't recall every phone call or discussion I've ever had.

Q. Okay. Do you -- were there meetings with BP personnel that you recall?

A. No particular meeting. I mean, I can only speculate.

Q. Okay. Throughout the process of -- of reviewing and ultimately approving BP's production safety system application, did you ever tell anyone at BP, either orally or in writing, that BP was required to have professional engineer stamps on its engineering drawings and documents?

MR. GOODPASTOR: Same objections.

A. Not that I recall.

Q. (BY MR. HUNTER) Okay. Would -- would you have had any reason to -- to tell BP that they needed to put engineering stamps -- registered professional engineering stamps on those filings?

MR. GOODPASTOR: Objection, form; Touhy objection.

A. I've never had the occasion to ask BP or any other -- any operator to stamp their documents with a

At the end of that letter, I see you wrote -- the last page, it says, "Production from this platform cannot commence until a preproduction inspection has been conducted by a representative of this office."

Do you see that?

A. Yes.

Q. Okay. Did that inspection occur?

A. That's somewhat of a misnomer in that that's a standard paragraph that we always issue in these letters because, believe it or not, there have been times where companies have failed to notify us that they were even installing a platform. So we just leave it in our letters. In this case, obviously, all the way from Amelia through Ingleside, through the offshore trips, we performed all the preproduction inspections.

Q. And if you look at what was marked as Domangue Exhibit 9, which is an inspection dated August 31, 2007, was that the final preproduction inspection?

A. Possibly. I -- I don't recall what the first date -- the date of first oil was.

Q. Okay. If I were to tell you that the date of first oil was October 7, 2006, would that help you?

A. 2006?

Q. 2007. I'm sorry.

A. Right.

Q. That first -- first oil was October 7, 2007. Does that -- does that refresh your recollection about whether this was the final preproduction inspection?

A. This would have been close to it. I mean, I -- I'd have to check our records to determine if we went out there for any other reason between those two dates.

Q. Okay.

MR. HUNTER: The tape is about done, so let's take a break.

THE WITNESS: Okay.

THE VIDEOGRAPHER: The time now is 11:06 a.m., and we're off the record.

(Short recess.)

THE VIDEOGRAPHER: This begins Tape 3 of today's deposition. The time now is 11:17 a.m., and we're back on the record.

Q. (BY MR. HUNTER) Mr. Domangue, do you remember how it was communicated to BP that they could commence production from the Atlantis platform?

A. I mean, we -- the letter that you showed me is the official document. But, I mean, normally it's kind of protocol or common courtesy that when we sign the letter, we notify them. I may have called Dennis Sustala. I was very familiar with the two operation supervisors on Atlantis, a Mr. Les Gibson and a Mr. Doug Hermann. So I

may have called them directly. I -- I don't recall.

Q. Okay. And -- and what did Les Gibson do?

A. Both Doug and Les were the -- were the -- the operations supervisors, which I think is one step below the OIM, which is offshore installation manager.

Q. Okay.

A. They were responsible for -- on different shifts for production operations, production safety.

Q. Okay. And -- and why was it that you knew them so well?

A. Throughout all of our preproduction inspections and all of our reviews of the S.A.F.E. chart and flow schematic.

Q. And -- and through all of your reviews and inspections, did -- did you confirm whether BP had installed the production safety system as it was designed?

MR. GOODPASTOR: Objection, form; Touhy objection.

Q. (BY MR. HUNTER) Is -- is that part of what you --

A. Could you repeat the question?

Q. My -- yeah. My question is: During -- during your -- as a result of your inspections and reviews, whether you confirmed that BP had installed the production safety system as it was designed.

Q. Right.

A. I believe DSME, which is a Korean company, had something to do with the floating facilities.

Q. Do you know what DSME did?

A. I think they actually designed and built the floating facility, floating portion.

Q. Okay. Do you know about a company called GVA?

A. I know that they're a consultant firm, but I'm not that familiar with them.

Q. Okay. What about -- did -- do you know whether McDermott had any role with respect to the Atlantis facilities?

A. McDermott and Amelia, I believe, built the topsides facilities.

Q. Do you know whether other operators in the Gulf of Mexico use these same companies like Mustang Engineering and McDermott and DSME to design and construct their facilities?

MR. GOODPASTOR: Objection, outside of the scope of the Touhy response.

A. Yes, McDermott, DSME, companies like that have been used by other operators.

Q. (BY MR. HUNTER) And -- and were you aware that BP was using these companies to design and fabricate Atlantis?

MR. GOODPASTOR: Objection, form.

A. During the time period that I was production engineer, no. I was aware of McDermott, not of DSME.

Q. (BY MR. HUNTER) Okay. Mr. Domangue, I want to ask you about some of the safety devices you mentioned earlier, okay? And I think you mentioned -- and something called an SCSSV. What -- what is that?

A. SCSSV is a surface controlled subsurface safety valve.

Q. And -- and -- and does Atlantis utilize SCSSVs?

A. Yes.

Q. Okay. And -- and where are those valves located?

A. Per the regulation, they're required to be 100 feet below the mud line in every wellbore.

Q. So are they within the well?

A. Yes, they are.

Q. Okay. And I think you also mentioned a -- a USV. What is a USV?

A. USV is underwater safety valve, and that's part of the subsea wellhead.

Q. Okay. So is that --

A. It's above the mud line but still under the surface of the water.

Q. Okay. And -- and what purpose do these valves serve?

Q. And -- and if -- if -- by the time my question's over, if you don't follow what I'm asking, be sure and tell me that --

A. Okay.

Q. -- okay?

I'm not asking you if this is the only part. But is it a major part of Subpart H and 14C to have mechanisms to detect abnormal conditions such as, for example, gas leakage, and have equipment to react to it and minimize potential adverse effects?

MR. HUNTER: Objection, form.

A. Yes.

Q. (BY MR. PERRY) Okay. Now, I want to kind of go back to what I've been asking -- a train of questions I had earlier, and I kind of got off of it.

But when you were working with Troy Trosclair, was he the person who mostly taught you about how to go through the proper procedures for permitting a new platform?

A. Yes.

Q. And also for dealing with changes in existing facilities?

A. Yes.

Q. Now, there was a number of questions that was asked to you about engineering stamps and things like

that. And was Troy Trosclair the person from whom you pretty much learned about engineering stamps and what their importance was or was not in the permitting process?

MR. HUNTER: Objection, form.

A. I -- I believe that I learned from Troy about the Subpart H regulation.

Q. (BY MR. PERRY) Okay.

A. The significance or insignificance of professional engineering stamps, I think that's been a large part of my career both inside and outside of the government.

Q. Where would you say you got most of your -- you -- you yourself are not a registered professional engineer; is that true?

A. I am not.

Q. Have you ever -- you're probably aware that in, I guess, all states becoming a registered professional engineer involves usually some specialized training sometimes in a specialized field that -- that may not be required for a person to obtain a engineering degree. Are you generally aware of that?

MR. HUNTER: Objection, form.

A. Can you ask your question again?

Q. (BY MR. PERRY) Yeah. I'm not an engineer, so I may not be very good at asking this question, so let me

MR. PERRY: Okay.

MS. VENEZIA: I'm sorry. Yes.

Q. (BY MR. PERRY) Next question is: Do you have an understanding from any source that whatever is done with that oil and gas in the Gulf of Mexico must be done in accordance with the act of Congress that we know as the Outer Continental Shelf Lands Act?

MR. HUNTER: Objection, form; outside the scope.

MS. VENEZIA: I'm objecting based on Touhy and instructing him not to answer.

Q. (BY MR. PERRY) Next: Do you have an understanding that everything that is done in the permitting process is required to be done in accordance with the applicable acts of Congress and the applicable regulations?

MR. HUNTER: Objection, form.

A. Could you repeat the question?

Q. (BY MR. PERRY) Sure. Did you learn as part of your training that whatever you as an agency employee do in the permitting process, that you're required to follow the applicable statutes and the applicable regulations?

A. Yes.

Q. Okay. Now, you mentioned a -- you mentioned a phrase that I wanted to ask you to explain to me how it

tape, and you're getting a drink of water. And if you would -- if -- if you would like, we could take a break now or we could try to use up our ten minutes and then take a break.

A. Let's go. I'm good.

Q. Okay. So I -- I think I had started to ask you what Troy Trosclair -- well, what you learned either from Troy Trosclair or anybody else about the benefit or lack of benefit or importance or lack of importance about engineering stamps. Tell me about that.

MR. HUNTER: Objection, form.

A. I don't think that Troy and I ever discussed the benefit or lack of benefit of engineering stamps, not that I recall.

Q. (BY MR. PERRY) Okay. Whenever you started doing the -- this work, was Atlantis the first facility that you had handled the permitting on or were there others?

A. There were others.

Q. Was Atlantis the only one you were doing at the time you were doing Atlantis or were you doing several at the same time?

A. As I recall, I was doing several.

Q. If we just take the date of May 3rd of 2007, which is the date the approval letter -- that you signed the approval letter, and go back before that, could you

asking about the -- that one -- (e)(5).

Q. I'm asking about (e)(5).

A. It's not necessarily a document. It's usually contained -- that statement is usually contained inside the letter that's submitted with the types of drawings that are submitted.

Q. Oh, okay.

A. So it's usually a statement inside the letter that goes with the -- with the five types of drawings or schematics that are submitted.

Q. That's -- that's -- that's fine.

A. Make sense?

Q. But that's not -- the point of my question is that do you consider -- as part of the training that you've gotten, have you been taught that you have to get the certification that's referred to in 30 CFR 250.802(e)(5), that you have to have that as part of the application in order to be able to issue the permit?

MR. HUNTER: Objection, form.

A. Yes, and I -- as part of the permit, that they are -- the letter that they submit for approval, I'm always looking for that statement, yes, sir.

Q. (BY MR. PERRY) And it's my -- by my count, on Atlantis you had four of them. By my count, there were three of them that were contained in letters and one of

recall or not, but it is my memory that at least three of the cover letters had certification language in them, as well. Do you -- do you happen to remember that?

A. I don't recall.

Q. Well, I don't think there's any dispute about that, so I'm not going to pursue it.

A. I would just simply say that they normally repeat it quite a few times, not just BP, but most operators repeat it.

Q. They -- they want -- they want to be sure you have it?

A. They want to make sure that we know that they had registered professional engineers on their projects.

Q. Now, obviously, the certification has to be true, right?

A. One would expect so, yes, sir.

Q. Okay. If the certification was false and you knew it was false, you couldn't issue the permit, right?

MR. HUNTER: Objection, form.

A. I would not issue the permit.

Q. (BY MR. PERRY) Okay. I'm sure this would never happen, but if somebody sent in the certification and then you ran into them somewhere downtown and you were having lunch and they came over and shook your hand and said, How are you doing, and laughed, and said, Well, I hope you got

my certification; of course, there's not a word of truth to it. If that happened, you wouldn't be able to issue the permit, would you?

MR. HUNTER: Objection, form.

A. Well, after I got finished screaming and yelling, I would call their bosses and find out why the heck that they didn't have professional engineers on their project.

Q. (BY MR. PERRY) Sure.

A. And I wouldn't go any further until they rectified that situation.

Q. Okay. Now, one of the things that I -- let me just ask you about -- about the engineering stamps. We used the term earlier in connection with something about some government document, that -- that it was self-proving. I don't know if you remember the comment "self-proving." But among lawyers there are certain kinds of documents that are considered to be self-proving or self-authenticating. And oftentimes those documents are accompanied by a seal or a stamp of a particular kind. You probably have seen seals or stamps on certified copies.

A. Yes.

Q. Have you ever seen that?

A. (Moving head up and down.)

Q. You've probably --

A. In all of my experience, I have not based my decisions on the validity of drawings that I have reviewed based off of that professional engineering stamp.

Q. (BY MR. PERRY) Well, I'm not -- I'm not really asking you that. I may come to that -- I actually -- I will come to that.

But for right now does it make sense to you that the stamp or the seal from a registered professional engineer operates as a method of self-authenticating that the document was prepared or approved by a registered professional engineer?

MR. HUNTER: Objection, form.

A. Yes.

Q. (BY MR. PERRY) Okay. Now, when you have documents that do not have the stamp on them, were you taught when you were working with -- with Troy Trosclair or anywhere else, were you taught to do anything to check and find out what -- is -- is this document really approved? It doesn't have a stamp. If it had a stamp, I would know it was approved, but it doesn't have a stamp. So were you taught to go further and look at all to check and see if the documents really were approved by registered engineers?

MR. HUNTER: Objection, form.

A. I can't recall any specific conversation. I know

relevant.

Q. (BY MR. PERRY) I'll -- I'll go on.

So it's obvious to you that if the stamp is there, you don't need to look any further. But my question is -- and let me just put it this way: What I gather -- and you tell me if I'm not right about this. What I gather is you never got any training that you needed to go further to establish that a registered engineer had actually approved these documents even when the stamp was absent?

MR. HUNTER: Objection, form.

Q. (BY MR. PERRY) Am I right about that?

MR. HUNTER: Objection, form.

A. My training pointed me towards accepting this document or this type of statement, correct.

Q. (BY MR. PERRY) Okay. In other words, if you got -- if you got the certification from the company, your training taught you to accept that and you didn't need to go beyond it, right?

A. Correct.

Q. Okay. Now, there was one time in looking at some Atlantis documents, I think after the permit had been issued and it was in effect for some time, that there came a time when there was a question about whether the Atlantis documents had actually been approved by

investigation.

MS. VENEZIA: Objection, Touhy; and instruct the witness not to answer.

Q. (BY MR. PERRY) Let me hand you a document.

(Exhibit 327 marked.)

Q. (BY MR. PERRY) Let me hand you what I've marked as Discovery Exhibit 327.

And do you recognize that as the front page and then one inside page out of a S.A.F.E. chart that was presented as part of the Atlantis permit application project?

A. This is a cover page to a S.A.F.E. chart for Atlantis, and this is one of the sheet -- it's sheet -- Sheet 121 of 127 of the S.A.F.E. chart for Atlantis.

Q. I believe I'm correct in saying that this is the latest revision of the S.A.F.E. chart that was submitted to you before the May 3rd approval letter was granted. I just throw that out there for whatever help it might be.

Would you please look at -- well, by glancing at this, you can tell, No. 1, it does not have a seal or a stamp of a registered professional engineer; is that true?

A. Correct.

Q. It does have columns next to each revision that are labeled CHK, which I guess stands for check?

A. Yes.

MR. HUNTER: Where are you looking?

MR. PERRY: Right here (indicating).

MR. HUNTER: Okay. Thank you.

Q. (BY MR. PERRY) And one of them is labeled ENGR, which stands for engineer?

A. Yes.

Q. And one of them is labeled APPR, which stands for approval?

A. Yep.

Q. And one is labeled client, right?

A. Yes.

Q. And in the approval column, do all of the initials show to be LBO?

A. Yes.

Q. Do you have any idea at all as to whether LBO was a registered professional engineer?

A. I do not know.

Q. Okay.

A. I knew who Linn Osborne is, but I -- I do not recall whether or not he's a professional engineer or not.

Q. Okay. And then FXR, do you know who that is?

A. I believe that would be Frank Ragan.

Q. Okay. I'm going to ask you to assume that Frank Ragan and Linn Osborne have both testified in this lawsuit

that they are not registered professional engineers. I'm going to ask you to just assume that as a fact for the rest of this deposition, okay, or at least the rest of my questions.

A. Okay.

Q. Okay. And do you see the initials KPD?

A. Yes, sir.

Q. Do you know who that is?

A. Ken -- I believe it's Ken DeJohn.

Q. Okay. I'm going to also ask you to assume as a fact that he has testified that he is not a registered professional engineer --

A. Okay.

Q. -- okay?

Now, you -- did you ever ask if these people or the people that went with these initials, before the permit was issued, did you ever make inquiry as to whether or not they were registered professional engineers?

A. No.

Q. Okay. And if we go through all of the various other documents that were submitted, both regulatory and nonregulatory, would it be true that the agency did not make any inquiry before the permit was issued as far as you know as to whether any of those initials belong to registered professional engineers or not?

MR. HUNTER: Objection, form.

A. As far as I know, no.

Q. (BY MR. PERRY) Okay. Now, you had a little bit of a conversation with counsel earlier today about the S.A.F.E. chart and what its importance was. And I didn't quite catch everything that you-all said, and I would like, if you would, for you to just take a minute and explain to me what is the purpose of the S.A.F.E. chart as -- at least the use that you use it for in the permitting process?

A. The S.A.F.E. chart is the road map that indicates the manner in which the platform will cease production as a result of a detected abnormal condition on board or associated with the subsea production.

Q. Okay. And do you operate on the basis -- when you're considering the application, do you operate on the basis that the S.A.F.E. chart -- if you read the S.A.F.E. chart, that is going to tell you how the equipment is actually going to operate when the equipment is built?

A. No.

Q. All right. What's the importance of it, then?

A. Again, we talked about earlier the difference between process controls and safety controls.

Q. Okay.

A. How the equipment operates relates to the process

A. Yes, sir.

Q. -- do you see where I have marked up my copy?

A. Yes, sir.

Q. Would you just read into the record and to the ladies and gentlemen of the jury what is the closure time that you allowed in the event of an ESD for the SCSSV?

A. Right. I think it's important to read the first statement, which says that "The following departures from the regulations were proposed in BP Exploration & Production, Inc.'s Deepwater Operation Plan for the Atlantis PQ and approved by letter dated June 15, 2005, in order to facilitate the above-mentioned production operations."

And one of those departures, which I believe is the one, two, three -- fourth down, says, "Depart from the required 2-minute closure time for the SCSSV. The closure time shall not exceed 60 minutes in the event of a platform ESD."

Q. Okay.

A. So this departure was approved in June -- June of 2005 by the technical assessment section as a result of the Deepwater Operations Plan.

Q. So that --

A. Which -- the reason that they were repeated in this letter was so that I could capture it on the

inspection form so that our inspectors would be aware when they test the facility of how much time to measure for the closure time of that valve.

Q. So the point that you're making is that, although it's documented in this letter, the actual decision to extend the closure time was made by somebody else in another division and you were just essentially following a decision that somebody else had already made?

A. Yes, sir.

Q. And so who was it and in what other division, again, actually made the division -- the decision to extend the closure time from 2 minutes to 60 minutes?

A. The technical assessment and operations support section made that decision.

Q. And who was the head of that section at that time?

A. At that time I do not recall.

Q. Okay. Now, was there any representations or assurances given to you or to the other -- this other group, for that matter, that you know of, about what would happen during that 60-minute period after some guy pushes a button saying, We need to have an emergency shutdown and -- and the valve is not going to close quite yet? During that period of time, what were you given to understand would happen?

closure of the SCSSV, does it?

A. It does not.

Q. Okay. Now, if you go to -- do you think they actually even have as-built drawings for the control system on Atlantis? Do you have any idea if they do or not?

MR. HUNTER: Objection, form.

A. I have no idea.

(Exhibit 330 marked.)

(Sotto voce discussion.)

Q. (BY MR. PERRY) Let me hand you Discovery Exhibit 330.

And this is a chart that has been produced to us by BP. And in the title block it is entitled Safety and Process Logic Diagram HPU System Subsea. Do you see that?

A. Yes, sir.

Q. And if you look at the top line where all the revisions are, do you see that that top line shows that this is system handover as-built?

A. Yes, sir.

Q. And so if this is the logic diagram as-built actually in use at the time of system handover, does it show a timer associated with closing down the SCSSV in the presence of an -- an emergency shutdown?

MR. HUNTER: Objection, form.

A. Could you repeat your question?

Q. (BY MR. PERRY) Yes. Does this show -- if you look at -- if you look at an emergency shutdown, does this show a timer delay -- what's the longest time delay that you see on this chart associated with what happens to the SCSSV during an emergency shutdown?

MR. HUNTER: Objection, form.

A. On this ESD circuit, what you have highlighted is -- as is associated with the high-pressure system shutdown, it shows 120 minutes.

Q. (BY MR. PERRY) Do you recall any authorization for anything that would take 120 minutes for the SCSSV?

A. I think if you read this diagram, you'll observe that there's a 60-minute timer and there's a 120-minute timer.

Q. Right.

A. And the 60-minute timer is associated with the low-pressure system shutdown, and the 120-minute is associated with the high-pressure system shutdown.

Q. What's the difference between the two as far as you know?

A. Not -- not -- not being familiar with this drawing, I -- I wouldn't be qualified to answer that question.

Q. Okay. Is there anything about shutting down the SCSSV that has been authorized by MMS for Atlantis that you know of that would call for a two-hour timer?

A. Not that I'm aware.

MR. PERRY: Well, we apparently need to change the tape, so why don't we do that.

THE VIDEOGRAPHER: Time now is 4:33 p.m. We're off the record.

(Short recess.)

THE VIDEOGRAPHER: This begins Tape No. 8 of today's deposition. Time now is 4:39 p.m., and we're back -- I'm sorry. I apologize.

This begins Tape 8 of today's deposition. Time now is 4:39 p.m. We're back on the record.

Q. (BY MR. PERRY) Has -- are -- are you ready?

A. Yes.

Q. Okay. Has BP informed MMS in an official way of making any changes to the process safety system that would call for a -- a two-hour timer related to the SCSSV?

A. I do not recall.

Q. Okay. Is that something that they should have informed you of?

MR. HUNTER: Objection, form.

A. If, in fact, they've changed from one hour as the departure is written to two hours, it is something they

should have informed us of.

Q. (BY MR. PERRY) Now, you told us -- we -- we've gone through -- with the assistance of Mr. Hunter, we went through a lot of discussions about various inspections. And let -- let me just get clear about a couple of things.

There was a -- has Atlantis been up and producing steadily since -- since first oil in -- in October of 2007?

A. I'm not aware of any significant shutdowns.

Q. When there was a particular inspection that was discussed that happened in February of 2008 -- and at that time, if I remember the discussion, there was a really excellent result that -- I don't remember the precise details, but it was a very excellent result that your folks found either nothing at all or very little to issue a -- to be concerned about. Do you recall that discussion?

A. Yes.

Q. Now, as far as you are aware, then, would it be fair for us to assume that everything about the Atlantis facility and the production safety system had been operating properly and with no problems from the time of first oil until up through and past that February inspection?

MR. HUNTER: Objection, form.

wells have all these valves. And so for me to bear significance on the fast acting choke versus any number of these valves, I've tried to explain that I would need to see what significance the technical assessment section placed on that specific valve to tell you if it was significant as to whether or not I would believe that they needed to contact me in the district. That's the best answer I can give.

Q. So your answer is for that reason, you can't give us an answer, as you sit here right now?

MR. HUNTER: Objection, form.

A. I can't give you an answer as to whether or not I consider it a significant enough MOC that you've referred to, to tell you whether or not I believe they needed to contact me.

Q. (BY MR. PERRY) Okay. The information provided to us by BP is that on January the 2nd of 2008, an event occurred on one of the wells at which certain valves in the tree were opening without having been intentionally commanded to open. Was your office informed of that, as far as you know?

MR. HUNTER: Objection, form.

A. Not that I'm aware.

Q. (BY MR. PERRY) Should you have been?

A. Which certain valves?

Q. Well, I believe -- I'm not certain, but I believe that it was the XOV.

A. The XOV. The XOV is a valve that crosses over between the annulus and the tubing.

Q. Uh-huh.

A. And so, therefore, you're saying that that valve was opening without being commanded to open or closing without being commanded to close?

Q. I believe, first, it opened, and then it may have later closed.

MR. HUNTER: Objection, form.

A. So the crossover valve also has a number of valves -- without looking at a picture of the tree, there are a number of valves in that system. So it may not necessarily be a concern, provided that the other valves were functioning as required. So I would say, without knowing more than you're giving me -- I'm not saying -- I will say that it's not necessarily a significant event.

Q. (BY MR. PERRY) On January 7, 2008, according to information provided to us by BP, on Well DC-124, beginning at approximately 11:24 p.m. and ending at 5:08 a.m. the next morning, there were approximately 1,000 events where some parts of the system -- we're talking about the valves opening and closing, the tree valves -- acted independent of any action initiated by the operator.

MR. HUNTER: Objection.

Q. (BY MR. PERRY) Is that something that your office was informed of, as far as you know?

MR. HUNTER: Excuse me. Objection, form. And also, I'm not sure I see how this is within the scope of the Touhy topics.

MR. PERRY: It -- it has to do with the permit and what should be reported.

A. Again, what valves?

Q. (BY MR. PERRY) These were tree valves.

A. Which tree valves?

Q. Apparently, all of them.

MR. HUNTER: Objection, form.

MS. VENEZIA: Can I ask, are you just asking him if they were informed?

MR. PERRY: That's my question. Was it reported to them?

A. I don't recall if we were or not.

Q. (BY MR. PERRY) If this was reported to you, is this something you would probably remember?

A. If it was reported to me, I probably would remember, and I probably would have taken action.

Q. Should it have been reported to you?

MR. HUNTER: Objection, form.

A. All tree valves behaving on their own behalf

would have been something I would have wanted to know about, yes.

Q. (BY MR. PERRY) Why?

A. Because they should respond to the safety system and not on their own.

Q. We have -- I -- I could go through 20 pages -- more than 20 pages of summaries of e-mails that go on for -- on the order of a year or more in which tree valves malfunctioning is a consistent and recurring theme. Was that ever reported to you by BP?

MR. HUNTER: Objection, form.

A. I do not recall.

Q. (BY MR. PERRY) If they had reported that to you as an ongoing problem, you would recall it, wouldn't you?

MR. HUNTER: Objection, form.

A. At this point I can say that I don't -- I just don't recall.

Q. (BY MR. PERRY) Now, the controls for the valves are something that are regulated by you and your office, are they not?

A. The safety system is regulated by my office.

Q. Your office, among other things, is concerned about the communications links to the wells, right?

A. Yes.

Q. Your office is concerned with all of the shutdown

valves, the boarding valve, the USVs, the SCSSVs, right?

A. Yes.

Q. Your office is concerned with the tree valves, right?

A. Well, I think you just described the tree valves, USVs, SCSSVs, XOVs, FLIVs, PIVs --

Q. The whole --

A. -- fast acting chokes -- fast acting chokes, all of that.

Q. All of that stuff.

I could go through here for a long time, and I'm -- and I'm going to go through to some degree. I'm going to try not to make this ad nauseam.

But, for example, on January the 9th on DC-112 and 113, the FAMs again failed to close. That was not reported to you, as best you can remember; is that true?

MR. HUNTER: Objection, form.

A. I do not remember.

Q. (BY MR. PERRY) It's something you would remember if it had been reported to you as a recurring event --

MR. HUNTER: Objection.

Q. (BY MR. PERRY) -- would you not?

MR. HUNTER: Objection, form.

A. I would like to tell you that I could remember at

sending electronic signals to subsea electronics modules that are located on the tree?

MS. VENEZIA: Again, I'm going to object. This is outside the scope of the Touhy letter and instruct him not to answer.

Q. (BY MR. PERRY) Well, that question is only a predicate for this -- this next question.

If the -- if the SEMs on the wells are malfunctioning, is that something that should be reported to you?

MR. HUNTER: Objection, form.

A. If the SEM -- if the subsea control modules are malfunctioning and they create a detectible abnormal condition in the production system and that -- that safety system malfunctions, then it would be something I would want to know about, as well.

Q. (BY MR. PERRY) Well, for example, if the signals are not coming from the SEM or can't be received by the SEM, should that be reported to you?

MR. HUNTER: Objection, form.

A. We talked about earlier where the topside safety system -- and you -- I think either Jonathan or yourself talked about loss of communications.

Q. (BY MR. PERRY) Uh-huh.

A. Loss of communications to the subsea well is not

necessarily a bad thing, provided you can ascertain on the surface whether or not the production flow has changed. If the safety system had an inability to shut down the well as a result of a detectible abnormal condition on the surface and the subsea system was incapable of responding due to a loss of communications, then that would be something I would want to know about.

Q. Okay. Well, let me -- for example -- and I don't really know all of these technicalities as well as you do, so I'm just going to have to ask you a simple -- sort of straight-up question.

On February the 11th of 2008, it is reported that they had no PSL signal on Wells 123, 124, and 143. That was during the time your inspection was going on. Is that something that should have been reported to you?

MR. HUNTER: Objection, form.

A. So you're saying during -- during the time we were conducting an inspection, they had no PSL signal where?

Q. (BY MR. PERRY) From Wells 123, 124, and 143.

A. And the reason for that lack of PSL was?

Q. Power going down.

A. Power going down? That's not --

MR. HUNTER: Objection to the -- to this whole line of questioning.

Go ahead.

A. That's not a good enough explanation for me to evaluate.

Q. (BY MR. PERRY) Okay. By June the 19th, there are long e-mails back and forth involving issues of oil bleeding into the annulus, leaking valves, and things of that nature, that had been going on since January. Is that something that should have been reported to you?

MR. HUNTER: Objection, form.

A. Can you repeat the question?

MR. HUNTER: And is this different from prior questions? Sorry. I'm not following it.

Q. (BY MR. PERRY) On -- on June the 19th of 2008, various staff people on Atlantis were having long e-mail discussions of long series of problems, including oil bleeding into the annulus, leaking valves, whether there were continuous similar problems, whether this was due to overrides by the Smart Tools, trying to schedule a conference to discuss the problems and what to do about them. My question is: Is that something that should have been reported to you?

MR. HUNTER: Objection, form.

A. Oil leaking into the annulus is something I would have wanted to know about.

Q. (BY MR. PERRY) Did you know -- was it ever

reported to you, as far as you can remember, that they were having failures of the single-board computers which send and receive signals from the -- from the wells?

A. Can you repeat that statement?

Q. They were having failures of single-board computers which send and receive signals from the well.

A. I don't recall that.

Q. Is that something that they should have told you about?

MR. HUNTER: Objection, form.

A. Again, I'll go back to my answer regarding whether or not the safety system had the ability to initiate a closure of the subsea system. And without knowing if that system you're referring to prevents that, then I can't answer the question.

Q. (BY MR. PERRY) I asked you early on -- I mentioned early on something that was reported to you. And my records show that on August the 4th of 2008, there's an e-mail chain that ends on that date. And the e-mail chain says that on July the 29th of 2008, subsea communications were lost with Wells 111 and 112. Communications were reestablished later, on August 1. So I think they're down for three days. And they did report this to you and asked for your permission to run the well, even though there were no electronic communications with

MR. HUNTER: Objection, form.

A. I would -- I would need to go back and look at the inspection dates. If you've got a minute for me to do that. The inspection forms will tell you when we conducted those inspections, which I think that's these here. And we did one on 2-12 of '08.

Q. (BY MR. PERRY) Uh-huh.

A. We did one on 4-1 of '09, and we did one on 5-5 of '10.

Now, the one thing these inspection forms will not tell me is whether or not they performed an ESD test. However, typically on a production complete inspection, which was the inspection that was done on 2-12-08 as well as the inspection done on 5-5 of '10, ESD inspections would have occurred, which means our inspectors would have initiated ESD and observed the closure of the subsea system.

So could you -- based off of that, that's the best analysis I can give you of that. Could you ask your question again?

Q. Would it be fair for us to understand that the information contained in Discovery Exhibit 223 was not revealed by the routine inspections that Mr. Hunter asked you about this morning?

MR. HUNTER: Objection, form.

A. I couldn't -- that's the best answer I can give you on that. It was a -- I'm not sure if one four one oh nine they conducted an ESD. However, between the inspection of 4-1 of '09 and 5-5 of '10 when they would have initiated an ESD, some of these problems could have been detected. I'm not aware if they were, but some of these problems could have been detected.

Q. (BY MR. PERRY) Well, if they had been detected, would they have been brought to your attention?

A. Yes.

Q. And you don't have any recollection of them, do you?

A. I do not.

Q. All right. I need to -- I'm going to change subjects. I -- I could ask you a lot of other things, but I'm going to change to my last subject. And I hope this isn't going to take very long, but I'm going to do something that I don't think I've ever done before, but I'm going to sort of apologize to you before I ask you these questions, but I have to do it.

But I'm going to touch on a subject that I have to ask you some about and make a record about, although I think it will be an unpleasant subject for all of us, and I'm not doing it in order to be unpleasant.

The official who was -- Don -- Don -- Donald

couple of things.

The fact is that the S.A.F.E. chart as it existed at the time you issued the permit had been prepared and approved by people, none of whom was a registered professional engineer, as we understand the facts today. Can we agree on that?

MR. HUNTER: Objection, form.

A. I have --

Q. (BY MR. PERRY) Based on --

A. -- I have not concluded that.

Q. Based -- based on the fact that the deposition in this case from Frank Ragan is that he is not a registered professional engineer and deposition testimony from Linn Osborne is that he is not a registered professional engineer?

MR. HUNTER: Objection, form.

Q. (BY MR. PERRY) So can we agree on that based on that testimony?

MR. HUNTER: Objection, form.

MS. VENEZIA: I'm -- I'm going to object to him answering that as well. If you want to ask him if he knows it, that's fine, but I don't want him to assume things which he's not been a party to.

MR. PERRY: Well, I -- I think I'm entitled to ask him to assume the deposition testimony that has

already been given in the case, and that's what I'm asking.

MS. VENEZIA: Do you have excerpts that you can show him?

MR. PERRY: That I have printed up and ready to show him?

MS. VENEZIA: If you want to show him electronically, that's fine. But I -- I don't want him to answer --

MR. PERRY: Well, I'm sure I can show him electronically --

MS. VENEZIA: -- that something's true and he hasn't --

MR. PERRY: -- depending on how long we want to sit here.

MS. VENEZIA: -- seen it or been present.

MR. PERRY: Yeah. Let me just see. Let me see what I can find here.

MR. HUNTER: What's the question?

MS. VENEZIA: They testified in their depositions that they weren't certified or licensed professional engineers.

MR. PERRY: My question asked him to assume that. Do you want to stipulate that they so testified or do you want to agree that you do not object on that basis?

MR. HUNTER: I'm -- I'm not going to stipulate to that.

MR. PERRY: Okay.

Q. (BY MR. PERRY) Mr. Osborne was asked, "Are you a registered professional engineer?"

"Answer: No." That is at Line 20 of -- Page 28, Line 20 of his deposition.

MS. VENEZIA: So can you ask your question again, now that you've read that?

MR. PERRY: Well, let me get to Mr. Osborne.

MR. HUNTER: That was Mr. Osborne.

A. You mean Mr. Ragan?

Q. (BY MR. PERRY) I'm sorry. Mr. Ragan. Thank you.

Here we are. Page 14, Line 11. "Are you a registered professional engineer?"

"Answer: No, I am not."

That is from the deposition of Frank X. Ragan.

Now --

MR. HUNTER: So what's -- what's the question?

Q. (BY MR. PERRY) Having that information, can we agree that the S.A.F.E. chart provided to the agency at the time the permit was issued, which at that time was

S.A.F.E. chart Rev 5 --

MS. VENEZIA: Which one? I'm sorry.

MR. PERRY: Rev 5. It's marked as one of the exhibits. It's the one that's not in color.

Q. (BY MR. PERRY) We read -- remember we read -- we looked at the initials. Mr. -- you identified Mr. Ragan for me. You identified Mr. Osborne -- Osborne for me. We now know that they were not -- are not registered professional engineers. Can we agree that the S.A.F.E. chart was prepared at that time by people who were not registered professional engineers?

MR. HUNTER: Objection, form.

A. I think what we can agree to is that the folks that prepared the S.A.F.E. chart, according to your testimony you just read, were not registered professional engineers. And my further question to all of this would be, under what auspices did BP issue this statement if these weren't the registered professional engineers?

Q. (BY MR. PERRY) Now, my next question is: The system that you approved for the safety shutdown was one that granted an extension based on the idea that during the 60-minute period, the well would be closed in by the choke valve and some other valves that would be operated by the electronic communications from the surface. And there was a further stipulation in the deviation that you

were lost on those wells, that the system that was supposed to automatically detect the loss of communications did not work. And, therefore, if you had both sides of the system losing communications, the system, contrary to the logic of the system, would not shut down the field.

My question is, to you: Does that fact and the other information contained in Discovery Exhibit 223 in any way impair your confidence in the safety system on Atlantis?

MR. HUNTER: Objection, form.

A. Your characterization of the bullet item that you highlighted is not one that I would agree with. And subsequently, in reading the entire e-mail, I came to the conclusion that there was a single line available.

Q. (BY MR. PERRY) Well, the people that BP has put -- have put forth as witnesses have testified that those facts reveal that if there's a dual loss of communications, you cannot count on that system to shut down the field.

MR. HUNTER: Objection, form.

Q. (BY MR. PERRY) And I'm going to ask you if the fact that you have read this information and that I have told you, and I'll ask you to assume that the witnesses have testified as I've indicated, impairs in any way your

confidence in the Atlantis shutdown system?

MR. HUNTER: Objection, form. And outside the scope of the Touhy designation.

MS. VENEZIA: Again, if you want to show him what the witnesses -- I don't want him to assume --

MR. PERRY: No. I tell you what, it's nearly 6:00 o'clock at night, and I'm -- I've asked him my question. It's a proper question. And I think I'm going to just let my question stand the way it is. We all know that it's a hypothetical question. Hypothetical questions are quite proper, and it's going to be up to me to --

MS. VENEZIA: I told him he can answer.

MR. PERRY: Okay. Thank you.

A. The best answer I can give you to this is that based off of what I read, I would have significant questions of BP, and I would want to ascertain whether or not the hydraulics to the system could be dumped or not as a result of a detected abnormal condition at the surface.

Q. (BY MR. PERRY) Okay. I'm going to continue on with just a couple more. I'm nearly finished.

But within the last week or two -- I've forgotten now how long it's been. It's either last week or the week before -- I took a deposition of Frank Ragan and Ron Berger, who were produced by BP as their official corporate representatives on the subject of the controls

THE STATE OF TEXAS)
COUNTY OF HARRIS)

REPORTER'S CERTIFICATION
DEPOSITION OF BRYAN DOMANGUE
TAKEN NOVEMBER 15, 2011

I, RENE WHITE MOAREFI, Certified Shorthand Reporter and Notary Public in and for the State of Texas, hereby certify to the following:

That the witness, BRYAN DOMANGUE, was duly sworn by the officer and that the transcript of the oral deposition is a true record of the testimony given by the witness;

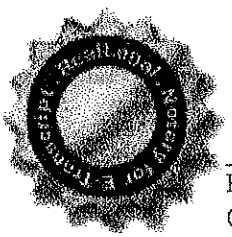
That the original deposition was delivered to JONATHAN A. HUNTER, ESQ.;

That a copy of this certificate was served on all parties and/or the witness shown herein on _____.

I further certify that pursuant to FRCP No. 30(f)(i) that the signature of the deponent was requested by the deponent or a party before the completion of the deposition and that the signature is to be before any notary public and returned within 30 days from date of receipt of the transcript. If returned, the attached Changes and Signature Page contains any changes and the reasons therefor.

I further certify that I am neither counsel for, related to, nor employed by any of the parties in the action in which this proceeding was taken, and further that I am not financially or otherwise interested in the outcome of the action.

Certified to by me this 15th day of November, 2011.



RENE WHITE MOAREFI, CSR, CRR, RPR
CSR NO. 3070; Expiration Date: 12-31-12
My notary commission expires 10-28-14
WORLDWIDE COURT REPORTERS
3000 Weslayan, Suite 235
Houston, Texas 77027
1-800-745-1101

EXHIBIT 5

This agreement is entered into and made effective the 18th day of Augusth 2008 by and between:

Swift Technical Services LLC, a corporation organized and existing under the laws of the United States with its registered offices at 3050 Post Oak Blvd., Suite 1450, Houston, Texas 77056 (hereinafter referred to as "COMPANY") of the one part and;

Kenneth Abbott (hereinafter referred to as "CONTRACTOR") of the other part;

EXHIBIT A – SPECIFIC CONDITIONS

Project:	**Atlantis Project**
Services:	**Subsea Project Services Leader**
Commencement Date:	**18 August 2008**
Completion Date:	**18 August 2010 (subject to extension)**
Working Hours:	**9/80 Schedule (or in accordance with operational requirements)**
Base Location:	**Houston, Texas - United States**
Rate:	**US $900.00 per day worked**
Medical, dental, vision, life insurance, AD&D Insurance and long term disability:	**Provided by Company for Contractor. Family members may be covered at Contractor's own cost.**
401K:	**Provided by Company for Contractor – Company provides a full (100%) match of contributions made by Contractor, up to 5% of Contractor's gross pay.**

In Witness Whereof, the parties have duly executed this Agreement in duplicate originals.

For and on behalf of **Swift Technical Services LLC**

Kariny Ritter
Contracts Administrator

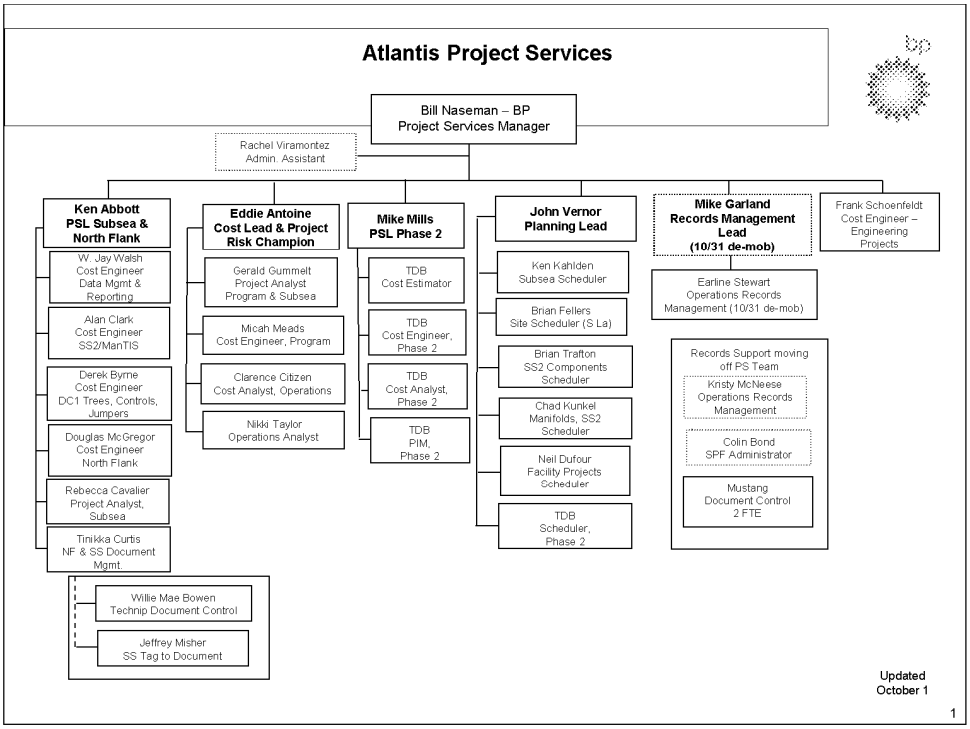
Date: July 23, 2008

I hereby accept this Agreement on the terms and conditions set out above
Kenneth Abbott

Date: 7/23/08

Redacted

EXHIBIT 6


Atlantis Project Services
Bill Naseman – BP
Project Services Manager
Rachel Viramontez
Admin. Assistant
Ken Abbott
PSL Subsea & North Flank
W. Jay Walsh
Cost Engineer
Data Mgmt & Reporting
Alan Clark
Cost Engineer
SS2/ManTIS
Derek Byrne
Cost Engineer
DC1 Trees, Controls, Jumpers
Douglas McGregor
Cost Engineer
North Flank
Rebecca Cavalier
Project Analyst, Subsea
Tinikka Curtis
NF & SS Document Mgmt.
Willie Mae Bowen
Technip Document Control
Jeffrey Misher
SS Tag to Document
Eddie Antoine
Cost Lead & Project Risk Champion
Gerald Gummelt
Project Analyst
Program & Subsea
Micah Meads
Cost Engineer, Program
Clarence Citizen
Cost Analyst, Operations
Nikki Taylor
Operations Analyst
Mike Mills
PSL Phase 2
TDB
Cost Estimator
TDB
Cost Engineer, Phase 2
TDB
Cost Analyst, Phase 2
TDB
PIM, Phase 2
John Vernor
Planning Lead
Ken Kahlden
Subsea Scheduler
Brian Fellers
Site Scheduler (S La)
Brian Trafton
SS2 Components Scheduler
Chad Kunkel
Manifolds, SS2 Scheduler
Neil Dufour
Facility Projects Scheduler
TDB
Scheduler, Phase 2
Mike Garland
Records Management Lead
(10/31 de-mob)
Earline Stewart
Operations Records Management (10/31 de-mob)
Records Support moving off PS Team
Kristy McNeese
Operations Records Management
Colin Bond
SPF Administrator
Mustang
Document Control
2 FTE
Frank Schoenfeldt
Cost Engineer – Engineering Projects
Updated
October 1
1

Redacted

EXHIBIT 7

PERRY & HAAS
ATTORNEYS AT LAW

2300 Frost Bank Plaza P.O. Box 1500 Corpus Christi, Texas 78403
Phone: 361-880-7515 Fax: 361-887-9507 E-mail: DLPerry@PerryHaas.com www.PerryHaas.com

April 24, 2009

Eric H. Holder, Jr.
Attorney General of the United States
United States Department of Justice
950 Pennsylvania Avenue, NW
Washington, DC 20530-0001

Via CMRRR # 70070220000111988697

Civil Process Clerk
Office of the United States Attorney
919 Milam Street, Suite 1500
Houston, Texas 77002

Via CMRRR # 70070220000111988703

CONFIDENTIAL: CASE UNDER SEAL

Re: Cause No. H-09-1193
United States of America Ex Rel. *Kenneth W. Abbott v. BP Exploration and Production Inc., BP America Inc., and BP p.l.c.;*
In the United States District Court for the Southern District of Texas, Houston Division

Dear General Holder and Mr. Johnson:

The enclosed, sealed copy of Plaintiff's Original Complaint in the above-referenced cause is being sent to you pursuant to the provisions of 31 U.S.C. § 3730(b)(2), and in accordance with Rule 4(d)(4) of the Federal Rules of Civil Procedure.

Very truly yours,

David L. Perry by
David L. Perry
Attorney for Relator

DLP:sbd
Enclosure

DAVID L. PERRY
Board Certified
Personal Injury Trial Law
Texas Board of Legal Specialization

JS 44 (Rev. 12/07)

CIVIL COVER SHEET

The JS 44 civil cover sheet and the information contained herein neither replace nor supplement the filing and service of pleadings or other papers as required by law, except as provided by local rules of court. This form, approved by the Judicial Conference of the United States in September 1974, is required for the use of the Clerk of Court for the purpose of initiating the civil docket sheet. (SEE INSTRUCTIONS ON THE REVERSE OF THE FORM.)

I. (a) PLAINTIFFS

nited States of America, ex rel. KENNETH W. ABBOTT

(b) County of Residence of First Listed Plaintiff Harris
(EXCEPT IN U.S. PLAINTIFF CASES)

(c) Attorney's (Firm Name, Address, and Telephone Number)

avid L. Perry, Rene Haas, Perry & Haas, P.O. Box 1500, Corpus hristi, TX 78403, 361-880-7500; et al.

DEFENDANTS

BP Exploration and Production Inc.; BP America Inc.; and BP p.l.c.

County of Residence of First Listed Defendant Harris
(IN U.S. PLAINTIFF CASES ONLY)

NOTE: IN LAND CONDEMNATION CASES, USE THE LOCATION OF THE LAND INVOLVED.

Sealed
Public and unofficial staff access to this instrument are prohibited by court order.

Attorneys (If Known)

H-09-1193

II. BASIS OF JURISDICTION (Place an "X" in One Box Only)

- ☐ 1 U.S. Government Plaintiff
- ☒ 3 Federal Question (U.S. Government Not a Party)
- ☐ 2 U.S. Government Defendant
- ☐ 4 Diversity (Indicate Citizenship of Parties in Item III)

III. CITIZENSHIP OF PRINCIPAL PARTIES (Place an "X" in One Box for Plaintiff and One Box for Defendant)
(For Diversity Cases Only)

	PTF	DEF		PTF	DEF
Citizen of This State	☐ 1	☐ 1	Incorporated *or* Principal Place of Business In This State	☐ 4	☐ 4
Citizen of Another State	☐ 2	☐ 2	Incorporated *and* Principal Place of Business In Another State	☐ 5	☐ 5
Citizen or Subject of a Foreign Country	☐ 3	☐ 3	Foreign Nation	☐ 6	☐ 6

IV. NATURE OF SUIT (Place an "X" in One Box Only)

CONTRACT
- ☐ 110 Insurance
- ☐ 120 Marine
- ☐ 130 Miller Act
- ☐ 140 Negotiable Instrument
- ☐ 150 Recovery of Overpayment & Enforcement of Judgment
- ☐ 151 Medicare Act
- ☐ 152 Recovery of Defaulted Student Loans (Excl. Veterans)
- ☐ 153 Recovery of Overpayment of Veteran's Benefits
- ☐ 160 Stockholders' Suits
- ☐ 190 Other Contract
- ☐ 195 Contract Product Liability
- ☐ 196 Franchise

REAL PROPERTY
- ☐ 210 Land Condemnation
- ☐ 220 Foreclosure
- ☐ 230 Rent Lease & Ejectment
- ☐ 240 Torts to Land
- ☐ 245 Tort Product Liability
- ☐ 290 All Other Real Property

TORTS

PERSONAL INJURY
- ☐ 310 Airplane
- ☐ 315 Airplane Product Liability
- ☐ 320 Assault, Libel & Slander
- ☐ 330 Federal Employers' Liability
- ☐ 340 Marine
- ☐ 345 Marine Product Liability
- ☐ 350 Motor Vehicle
- ☐ 355 Motor Vehicle Product Liability
- ☐ 360 Other Personal Injury

PERSONAL INJURY
- ☐ 362 Personal Injury - Med. Malpractice
- ☐ 365 Personal Injury - Product Liability
- ☐ 368 Asbestos Personal Injury Product Liability

PERSONAL PROPERTY
- ☐ 370 Other Fraud
- ☐ 371 Truth in Lending
- ☐ 380 Other Personal Property Damage
- ☐ 385 Property Damage Product Liability

CIVIL RIGHTS
- ☐ 441 Voting
- ☐ 442 Employment
- ☐ 443 Housing/ Accommodations
- ☐ 444 Welfare
- ☐ 445 Amer. w/Disabilities - Employment
- ☐ 446 Amer. w/Disabilities - Other
- ☐ 440 Other Civil Rights

PRISONER PETITIONS
- ☐ 510 Motions to Vacate Sentence

Habeas Corpus:
- ☐ 530 General
- ☐ 535 Death Penalty
- ☐ 540 Mandamus & Other
- ☐ 550 Civil Rights
- ☐ 555 Prison Condition

FORFEITURE/PENALTY
- ☐ 610 Agriculture
- ☐ 620 Other Food & Drug
- ☐ 625 Drug Related Seizure of Property 21 USC 881
- ☐ 630 Liquor Laws
- ☐ 640 R.R. & Truck
- ☐ 650 Airline Regs.
- ☐ 660 Occupational Safety/Health
- ☒ 690 Other

LABOR
- ☐ 710 Fair Labor Standards Act
- ☐ 720 Labor/Mgmt. Relations
- ☐ 730 Labor/Mgmt.Reporting & Disclosure Act
- ☐ 740 Railway Labor Act
- ☐ 790 Other Labor Litigation
- ☐ 791 Empl. Ret. Inc. Security Act

IMMIGRATION
- ☐ 462 Naturalization Application
- ☐ 463 Habeas Corpus - Alien Detainee
- ☐ 465 Other Immigration Actions

BANKRUPTCY
- ☐ 422 Appeal 28 USC 158
- ☐ 423 Withdrawal 28 USC 157

PROPERTY RIGHTS
- ☐ 820 Copyrights
- ☐ 830 Patent
- ☐ 840 Trademark

SOCIAL SECURITY
- ☐ 861 HIA (1395ff)
- ☐ 862 Black Lung (923)
- ☐ 863 DIWC/DIWW (405(g))
- ☐ 864 SSID Title XVI
- ☐ 865 RSI (405(g))

FEDERAL TAX SUITS
- ☐ 870 Taxes (U.S. Plaintiff or Defendant)
- ☐ 871 IRS—Third Party 26 USC 7609

OTHER STATUTES
- ☐ 400 State Reapportionment
- ☐ 410 Antitrust
- ☐ 430 Banks and Banking
- ☐ 450 Commerce
- ☐ 460 Deportation
- ☐ 470 Racketeer Influenced and Corrupt Organizations
- ☐ 480 Consumer Credit
- ☐ 490 Cable/Sat TV
- ☐ 810 Selective Service
- ☐ 850 Securities/Commodities/ Exchange
- ☐ 875 Customer Challenge 12 USC 3410
- ☐ 890 Other Statutory Actions
- ☐ 891 Agricultural Acts
- ☐ 892 Economic Stabilization Act
- ☐ 893 Environmental Matters
- ☐ 894 Energy Allocation Act
- ☐ 895 Freedom of Information Act
- ☐ 900Appeal of Fee Determinatio Under Equal Access to Justice
- ☐ 950 Constitutionality of State Statutes

V. ORIGIN (Place an "X" in One Box Only)

☒ 1 Original Proceeding ☐ 2 Removed from State Court ☐ 3 Remanded from Appellate Court ☐ 4 Reinstated or Reopened ☐ 5 Transferred from another district (specify) ☐ 6 Multidistrict Litigation ☐ 7 Appeal to District Judge from Magistrate Judgment

VI. CAUSE OF ACTION

Cite the U.S. Civil Statute under which you are filing (**Do not cite jurisdictional statutes unless diversity**): 31 U.S.C. 3729

Brief description of cause: False Claims Act - false certification to the Government

VII. REQUESTED IN COMPLAINT: ☐ CHECK IF THIS IS A CLASS ACTION UNDER F.R.C.P. 23 DEMANDS

CHECK YES only if demanded in complaint:
JURY DEMAND: ☑ Yes ☐ No

VIII. RELATED CASE(S) IF ANY (See instructions) JUDGE DOCKET NUMBER None known

DATE 04/20/2009

SIGNATURE OF ATTORNEY OF RECORD

FOR OFFICE USE ONLY

RECEIPT # AMOUNT APPLYING IFP JUDGE MAG. JUDGE

IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF TEXAS
HOUSTON DIVISION

United States District Court
Southern District of Texas
FILED

APR 21 2009

Michael N. Milby, Clerk

UNITED STATES OF AMERICA EX REL. KENNETH W. ABBOTT,	§	
Plaintiff	§	
v.	§	CIVIL ACTION NO. H-09-1193 JURY
BP EXPLORATION AND PRODUCTION INC., BP AMERICA INC. and BP p.l.c.,	§	
Defendants	§	

Sealed
Public and unofficial staff access to this instrument are prohibited by court order.

FILED *IN CAMERA* AND UNDER SEAL
PURSUANT TO
31 U.S.C. § 3730(b)(2)

PLAINTIFF'S ORIGINAL COMPLAINT

TO THE HONORABLE UNITED STATES DISTRICT JUDGE:

I.
PARTIES

1. The Plaintiff is the United States of America *ex relatione* Kenneth W. Abbott under the provisions of 31 U.S.C. § 3730(b). Kenneth W. Abbott ("Relator") is an individual residing in Houston, Texas.

2. Defendant BP Exploration and Production Inc., also known under its common or assumed name, "BP," is a foreign corporation doing business in Texas. Defen-

dant BP Exploration and Production Inc. is incorporated under the laws of Delaware, with its home office at Post Office Box 1036, Warrenville, Illinois 60555-1036.

Pursuant to 31 U.S.C. § 3730(b)(2), service of process on this Defendant shall be deferred until ordered by the Court. When ordered by the Court, Defendant BP Exploration and Production Inc. may be served with process through its registered agent for service, C T Corporation System, at 350 North St. Paul Street, Dallas, Texas 75201.

3. Defendant BP America Inc., also known under its common or assumed name, "BP," is a foreign corporation doing business in Texas. Defendant BP America Inc. is incorporated under the laws of Delaware, with its home office at P.O. Box 1036, Warrenville, Illinois 60555-1036.

Pursuant to 31 U.S.C. § 3730(b)(2), service of process on this Defendant shall be deferred until ordered by the Court. When ordered by the Court, Defendant BP America Inc. may be served with process through its registered agent for service, C T Corporation System, at 350 N. St. Paul Street, Dallas, Texas 75201.

4. Defendant BP p.l.c., also known under its common or assumed name, "BP," and also known as "BP Global," is a foreign corporation doing business in Texas. Defendant BP p.l.c. is incorporated under the laws of England, with its principal executive offices at 1 St. James's Square, London SW1Y 4PD, England.

Pursuant to 31 U.S.C. § 3730(b)(2), service of process on this Defendant shall be deferred until ordered by the Court. When ordered by the Court, service of proc-

ess on Defendant BP p.l.c. may be had by serving the Texas Secretary of State pursuant to Tex. Civ. Prac. & Rem. Code. Ann. § 17.044, by certified U.S. mail, return receipt requested, addressed to the Office of the Secretary of State, Statutory Documents Section - Citations Unit, Post Office Box 12079, Austin, Texas 78711-2079.

II.
JURISDICTION AND VENUE

5. This Court has jurisdiction and venue of this action pursuant to 28 U.S.C. § 1331 and the False Claims Act, 31 U.S.C. § 3732(a).

III.
SERVICE OF PROCESS

6. Pursuant to the provisions of 31 U.S.C. § 3730(b)(2), process shall be served upon the Government in accordance with Rule 4(i) of the Federal Rules of Civil Procedure, as follows:

a. By sending a copy of the Summons and of the Complaint by Certified Mail addressed to the Civil Process Clerk at the Office of the United States Attorney for the Southern District of Texas, Houston Division, at 919 Milam Street, Suite 1500, Houston, Texas 77002, and

b. By serving the Summons and Complaint by Certified Mail to Eric H. Holder, Jr., Attorney General of the United States, at the United States Department of Justice, 950 Pennsylvania Avenue, NW, Washington, DC 20530-0001.

7. Pursuant to the provisions of 31 U.S.C. § 3730, this Complaint is filed *in camera*, and no service of process shall be had upon the Defendants until further order of the Court, pursuant to 31 U.S.C. § 3730(b)(2).

IV.
CONDITION PRECEDENT

8. Relator has direct and independent knowledge of information upon which this suit is based. Relator has heretofore complied with the provisions of 31 U.S.C. § 3730(b)(2) by providing a written disclosure of substantially all material evidence and information possessed by Relator to the Inspector General of the Department of the Interior and to representatives of the United States Department of Justice.

V.
IDENTIFICATION OF PARTIES

9. Relator is an individual residing in Houston, Harris County, Texas.

10. Defendant BP Exploration and Production Inc., also known under its common or assumed name, "BP," is a corporation which is the operator of the oil and gas production project in question known as the BP Atlantis Project. Relator believes that said Defendant is the 55% owner of said project as well as the operator thereof.

11. Defendant BP America Inc., also known under its common or assumed name, "BP," is believed to be the direct or indirect owner of all or a majority interest in BP Exploration and Production Inc.

12. BP p.l.c. (also known under its common or assumed name, "BP," and also known as "BP Global," and hereinafter so referred to) is the ultimate corporate parent of both BP Exploration and Production Inc. and BP America Inc.

13. Upon information and belief, BP Global exercises substantial detailed control over the financing and operations of both BP Exploration and Production Inc. and BP America Inc. and derives the ultimate profit from the fraud alleged herein; likewise, BP America Inc. exercises substantial control over BP Exploration and Production Inc. and profits from its fraud. Such parents should be required to disgorge the profit which they have obtained from the fraud.

VI.
SUMMARY OF ALLEGATIONS

14. The BP Atlantis Project is an oil and gas production project operated by the Defendants on submerged federal lands on the Outer Continental Shelf pursuant to leases under 43 U.S.C. Ch. 29 and regulations enacted thereunder. The lease grants to BP the right to acquire additional property rights from the Government, including to-wit: production rights to produce oil and gas. To acquire production rights, BP was required to meet certain conditions -- including to certify and verify the design and construction of its production platform and related equipment (facility) as meeting federal requirements for human and environment safety. In summary, BP had to certify and verify that:

a. The facility had an approved engineering design meeting specific safety engineering requirements;

b. The fabrication/construction of the facility conformed to the approved engineering design which plan was then approved by the Government;

c. The installation of the facility conformed to approved installation plans;

d. The design plans and specifications and "as-built" engineering documents were maintained by BP at a specified location for the life of the facility;

e. The facility met safety hazard analysis (HAZOP) provisions of specified American Petroleum Institute (API) recommended practices for such installations.

15. For each of these requirements, BP submitted documentation, certifications and verifications for Government approval. After all approvals, BP was granted the "production rights" and began production in November, 2007.

16. Defendants' certifications were false. At least as to the Subsea Project portion of the project, there are no "approved for design" engineering documents, "approved for construction" engineering documents or "as-built" engineering documents for large portions of the work; without a complete set of such documents, all these certifications and verifications are false. Without these documents, critical safety requirements, such as the required HAZOPs, cannot be met and oil and gas cannot be safely produced through the platform and its equipment.

17. The false certifications and records were presented to the Government by BP in support of its false claim of entitlement to production rights; by the use of such false documents, BP obtained government property, namely, production rights to Government owned oil and gas, through the Project Atlantis platform and related subsea equipment. BP has now commenced producing through such equipment. BP has taken federally-owned oil and gas in amounts likely exceeding $5 billion in value.

18. BP has presented for approval to the Government false accountings (predicated upon the false claim of rightful production) falsely representing that BP is entitled to retain the substantial portion of the value of the product while remitting only a small fraction in royalties to the Government.

19. BP's conduct makes a mockery of the statutory requirement of 43 U.S.C. § 1347:

> (b) Use of best available and safest economically feasible technologies
>
> [T]he Secretary . . . shall require, on all new drilling and production operations and, wherever practicable, on existing operations, the use of the best available and safest technologies . . . wherever failure of equipment would have a significant effect on safety, health, or the environment . . . .

43 U.S.C. § 1347.

VII.
PUBLICLY AVAILABLE BACKGROUND

20. BP Exploration and Production Inc. is the operator of an oil and gas production development project known as the BP Atlantis Project which is a joint venture of

BP (56%) and BHP Billiton (44%). The project is located upon leases obtained from the United States Department of the Interior pursuant to 43 U.S.C. § 1334 et seq. on the Outer Continental Shelf along the Sigsbee Escarpment of Green Canyon Blocks 699, 700, 742, 743 and 744, approximately 190 miles south of New Orleans, Louisiana. The project is located in water depths ranging from approximately 4400 to 7200 feet.

21. The BP Atlantis Project is subject to the provisions of 43 U.S.C. § 1334 et seq., and 30 C.F.R. § 250.101, et. seq. These provisions authorize the leasing of federal lands for oil and gas development and prescribe the terms upon which the Government will sell its production to development companies such as BP.

22. Before it could obtain permission from the Government to install equipment to extract and take possession of the Government's hydrocarbons from beneath the sea, BP was required to obtain approval from the Department of the Interior, through the Minerals Management Service (MMS). Compliance with specific health, safety and environmental requirements is required by the statutes and regulations; these requirements are incorporated by law into the leases and compliance is a condition of the continuation of a lease once granted. 43 U.S.C. § 1334(b). Certification of compliance with specific requirements is required and approval of certain requirements is a prerequisite to beginning production (*i.e.*, taking oil and gas from Government lands). 30 C.F.R. § 250.293; 30 C.F.R. § 250.800.

23. The BP Atlantis project is newly constructed. Its production system includes a moored, semi-submersible platform connected to a Subsea System which, in turn, is connected to and receives oil and gas production from under sea oil and gas wells. The first project phase, known as Drill Center 1 (DC-1/SS1) has been completed and began production in the latter months of 2007. DC-3 is scheduled to begin production in mid 2009.

24. According to the BP America Inc. website, BP Atlantis began production in October, 2007. Atlantis is rated to produce 200,000 barrels per day of oil and 180 million cubic feet per day of gas.

III.
RELATOR'S KNOWLEDGE AND INFORMATION

25. On August 18, 2008, Relator was employed to work (through a third-party employment company) in the administrative offices of the BP Atlantis Project located on IH-10 at Kirkwood in Houston, Harris County, Texas. Relator's office was located at Energy Tower 1, 11700 Katy Freeway. Other offices of the Project were located at 501 Westlake Park Blvd., Houston, Texas.

26. Relator was not involved with any of the certifications or verifications described above. All such certifications and verification would have been filed before Relator's employment with BP began. Upon information and belief, Relator asserts that BP

filed the requisite certifications and verifications needed to obtain approval for the Project Atlantis platform and related equipment required to begin production, that BP's certifications and verifications were false for the reasons set forth herein, and that the Government's approval for development and production was thus obtained by fraud and is invalid.

27. Relator worked as a project control supervisor on the subsea portions of the Project with the title of Project Services Lead. Part of Relator's responsibility was to supervise the databases which maintain critical project documentation. One of Relator's immediate subordinates was Tinikka Curtis, who was the direct administrator of the documentation databases.

28. Relator has worked in administration of project control for engineering projects for over 20 years and is familiar with normal procedures in the industry for such projects.

29. During an engineering project such as Atlantis, design and construction engineering documents normally go through multiple phases, beginning as design concepts and ending with "as-built" engineering documents. Although nomenclature may vary from project to project or company to company, the general process is the same. The process generally expected as per BP-specific procedures included:

a. Engineering documents "Issued for Approval" (IFA) by the contractor for BP comments;

b. Engineering documents "Issued for Design" (IFD) by the contractor after BP comments or concerns are incorporated;

c. Engineering documents "Issued for Construction" (IFC) with BP's approval as correct for actual fabrication and construction of the project;

d. "As-Built" engineering documents which are the latest revision of construction engineering documents altered as necessary to reflect the actual, "as-built" condition.

30. In any phase, there may be several engineering analyses and reviews referenced on the document. At various phases, the final result is signed by the responsible engineer. The final engineering document contains the complete history of changes, including the engineering approval and signatures from the earlier phases.

31. The phase of any particular engineering document as it exists at a given time is shown by a type of lettering designation (for example, IFA, IFC, IFD, as shown above) which is shown on the document and carried forward onto the database listing of documents.

32. In Relator's ordinary administrative work for BP, he had access to and made use of databases containing the Atlantis engineering documents and gained personal knowledge of the contents of the databases. The BP Atlantis databases containing the documents were exact copies of similar databases maintained by the prime engineering contractor for the project, so that BP Atlantis had copies of all documents. It is Rela-

tor's understanding, based on the system as he learned it while working at BP, that there are no engineering documents in existence other than those in BP's databases.

33. Soon after beginning work on the Project, Relator learned that BP Exploration and Production Operations did not have complete "as-built" engineering documents for the subsea aspects of the BP Atlantis Project, including such critical systems as Piping and Instrument Diagrams (P&IDs), mechanical, controls, and installation engineering documents.

34. "As-built" documents are critically necessary to the safe operation of an installation of this nature.

a. The platform and related structures are a complex of piping, manifolds, valves, pressure control, safety and safety shutdown, electrical, electronic, data, mechanical, hydraulic and other equipment controlled by a network of wiring operated through multiple, inter-related operating stations, many of which are automated to respond to instruments which electrically measure temperatures, pressures, flow rates and other inputs. The facility includes a semi-submersible floating structure at the surface connected to producing wells thousands of feet below at the seabed, delivering oil and gas at high pressures to the surface facility.

b. "As-built" documents are routinely consulted by operating personnel as part of normal and emergency operations. Development of safe operating procedures, training, conducting hazards analyses (HAZOPs) and "management of

> change" (MOCs) are a few of the needs requiring availability of as-built documentation. Change is a constant to most such installation due to routine needs to repair, replace or upgrade equipment, or to update or enlarge the facility. Project Atlantis is changing moment by moment as construction continues on additional drill centers. Change requires orderly, procedural MOCs and HAZOPs to assure that change is safety integrated into the existing facility, both in terms of the physical connections of equipment and in terms of operating procedures and training. All of this is critical to safe operations, and all of it rests on a foundation of available "as-built" documents.

35. The lack of "as-built" engineering documents was well-known to the management of Project Atlantis, including William H. (Bill) Broman, Atlantis Subsea Director, who reported to Simon Todd, the Vice President of Atlantis. Mr. Broman sent and received emails and participated in meetings on this subject.

36. Shortly after beginning work, Relator was sent by Barry Duff (his immediate predecessor in Relator's job) a copy of an email memo written by Duff to other management personnel on the subject of lacking "as-built" documents on August 15, 2008 (prior to Relator's beginning work). The Duff email went to various management personnel including Bill Broman and Bill Naseman, Atlantis Project Controls Supervisor. In his email, Duff reported that Tinikka Curtis, Document Control Administrator, had been asked by the Operations Document Control person (Christy), to provide all the Subsea

P&IDs regardless of their status (e.g, complete or not complete, handed over or not handed over). Christy would not say who made the request, but Duff believed it was coming from Nita Oza to support an IM (Information Management) Evaluation she was leading. (It was not surprising that Operations would ask for the documents since it is generally known that Operations should have "as-built" P&IDs available to work with. Note this lack of P&IDs discussion occurred about 10 months after production through the platform had commenced.)

37. Duff's email advised his management, including Broman, that he had refused to provide the P&IDs because they were substantially incomplete; Duff's email conveyed the information that:

a. "hundreds, if not thousands" of critical documents have never been finalized;

b. "this could lead to catastrophic Operator errors;"

c. categories of critical documents which are not complete include such critical documents as Piping and Instrument Diagrams (P&IDs), mechanical, controls, and installation engineering documents;

d. due to incompleteness, such critical documents cannot be turned over to Operations which is, thus, forced to conduct operations of the Project without access to such documents;

this is well-known in the industry to be a fundamental violation of safe practice;

e. "the document numbering scheme is so fundamentally flawed" that document numbering frequently does not distinguish between mechanical, electrical, P&ID, etc.;

f. the document database system frequently does not allow direct association of a given document with the equipment or geographic subsea location to which it relates; for example, documents are not categorized by drill center.

38. Attached to the Duff email was another from Malcom Vass, Project Manager of Technip, the outside prime contractor involved, promising to provide completed, "as-built" P&IDs for BP and its operators within three weeks. While Relator was working with BP, Technip did not provide the "as-built" drawings.

39. On or about August 30, 2008, Relator was one of the recipients of an email from Duff relating to Duff's efforts to get a decision from upper level management to resolve the lack of proper engineering documents and other issues discussed in the August 15, 2008 email. Duff noted in this email that he had been trying to get management to approve Duff's plan to fix the engineering documents problem since May 1, 2008; he attached an email from Andrew Gregg advising that Duff's plan would cost $2 million and was not approved.

40. Shortly after beginning work, Relator also learned that, in many cases, there was an absence of "approved for construction" engineering documents.

41. When Relator began his employment with BP, Drill Center 1 (DC-1) was in production and the next drill center, DC-3, was under construction. (A drill center is equipment that gathers production from a group of wells and passes it through subsea equipment to the platform). Relator soon learned there was a lack of "Issued for Construction" engineering documents for either DC-1 or DC-3; Relator communicated on this subject and on the subject of the unavailable but promised P&IDs with Malcom Vass at Technip.

42. By October 20, 2008, Relator emailed Ryan Malone, Project Manager for the DC-3 project and Bill Broman, overall Project Atlantis manager, informing them that:

a. Technip had not provided the P&IDs as promised, and

b. BP did not have "issued for construction" engineering documents for either DC-1 or DC-3, and there was no apparent schedule for their completion.

Relator expressed concern over having fabrication and installation under way without approved, "issued for construction" engineering documents.

43. On November 19, 2008, Relator and Tinnika Curtis advised Bill Naseman (their manager) and Bill Broman that the "lead engineers" responsible for various aspects of the project were failing to ensure proper coding of documents by which a particular

document for a particular piece of equipment could be related to the project sector it actually belonged to, and were failing to issue the needed "as-built" engineering documents to Operations for the DC-1 project which was already in production (for about 1 year by that time). It was explained that a large number of the documents in the relevant database were not "as-built" engineering documents. The database itself showed the status of the engineering documents and many had not been issued as being "as-built." In addition, after examining the actual electronic file attachments in the database containing the engineering documents themselves, the engineering documents were not stamped "as-built" as required if they were "as-built." The email informed management that it was critical that Operations be provided with "as-built" engineering documents. The email also included a proposed plan of action to remedy the situation.

44. The lead engineers were extremely resistant to the proposed plan of action. No additional "as-built" engineering documents were completed for the DC-1, but the lead engineers complained to Relator's manager (Bill Naseman) and the Atlantis Project Manager (Bill Broman).

45. A spreadsheet workbook file entitled "DC-1 n SS-1 Closeout - Sector Report RevA" was prepared in November 2008 which detailed thousands of engineering documents which were incomplete and had never been brought to the "as-built" stage. This extensive spreadsheet itemized thousands of engineering documents including drawings, plans, specifications and related engineering documents and the status of each. It

was prepared in the ordinary course of business of the BP Atlantis Project. Relator was entitled to and did have access to it. Using the spreadsheet, Relator summarized the completion status of the engineering documents for DC-1 only, grouped by project "sector" and calculated the number and percentage of incomplete documents for each sector. Eighty-nine percent (89%) of the documents were not yet approved by BP. Only 274 out of over 7,000 documents were "as built," even though DC-1 had been in production for over a year. The results are summarized in the chart which follows on page 19 (remainder of this page left blank):

Subsea Systems (DC-1 Only)

Sector No.	Total	IFD	IFC	As-Blt	Not Yet App by BP	% Not App by BP
30 Subsea Systems (well-heads, manifolds, flowlines and risers)	1,266	27	86	101	1,052	**83%**
31 Wellheads	22	0	0	0	22	**100%**
32 Trees	570	1	9	1	559	**98%**
33 Manifolds	161	5	4	0	152	**94%**
34 Pipelines/Flowlines	2,383	1	108	0	2,274	**95%**
35 Controls	1,351	14	36	36	1,265	**94%**
36 Umbilical	454	2	201	56	195	**43%**
37 Risers	750	0	1	80	669	**89%**
38 Installation	219	0	14	0	205	**94%**
TOTALS	**7,176**	**50**	**459**	**274**	**6,393**	**89%**

46. It is Relator's understanding that virtually all of these items are of critical importance to the safe and proper functioning of a system which handles oil and gas

flows thousands of feet beneath the surface of the sea under extreme pressures and temperatures.

47. On November 24, 2008, Bill Broman emailed all Atlantis engineering leads to the effect that there was a "large issue" with the subsea documentation and that it would be necessary to get it cleaned up. He forwarded Relator's emails and urged that everyone cooperate and work together to develop timing and resources to get something done.

48. On December 2, 2008, Broman held a staff meeting. Some of the lead engineers present at the meeting questioned why the leads needed to check the engineering documents for correctness and for correct number coding when they signed them off, and why did they need to push for final as-built engineering documents. They were argumentative with Relator about this, and they also asked what procedure said they had to do these things. Bill Broman's staff, including the other project managers and lead engineers, were present at the meeting, and witnessed the heated exchange.

49. Relator responded to the leads that it was BP procedure as outlined in BP's Project Execution Plan to do so and every oil company required their lead engineers to review engineering documents for accuracy and to obtain as-built final engineering documents from all vendors for operations before startup. After the meeting on December 17, 2008, Relator emailed the lead engineers Section 6.2 of the Atlantis Subsea Project Execution Plan which required the Lead Engineer for each discipline area to ensure

that all technical documentation is updated to reflect the as-built condition of the equipment prior to deployment to the field. Relator emphasized to the leads that before the DC-1 unit started production one year before, final "as built" engineering documents should have been turned over to offshore operations, and they had not been, and that must be remedied as soon as possible.

50. In a staff meeting with Bill Naseman (Relator's manager) on December 8, 2008, Relator attempted to discuss this issue with Naseman, but Naseman refused to discuss it. Witnesses to Relator's efforts to discuss the subject included Eddie Antoine, John Vernor, and Frank Schoenfeldt.

51. In a meeting on January 12, 2009, between Atlantis Project Controls Supervisor Bill Naseman and Relator, Naseman informed Relator that Relator had been "too aggressive" with the lead engineers in attempting to get them to correct their engineering documents and issue "as-built" engineering documents.

52. Ron Berger is the Operations Manager for the Atlantis Project. Relator and Tinnika Curtis met with him in early January 2009 to discuss his concern that Operations still had not received "as-built" engineering documents. Relator advised him of the difficulty with the lead engineers and of Relator's plan to solve the problem, and sent him, by email dated January 17, 2009, copies of the Subsea Project Execution Plan requirement and Relator's plan to get the "as built" documents.

53. Relator was discharged allegedly due to a "reduction in force" on February 3, 2009. To the best of Relator's knowledge and belief, the issues respected the as-built documents and other incomplete documents have never been resolved.

54. As discussed above, a great many of the engineering documents in the databases, although they should be in final, "as-built" status, are only in the very early stages of development. The spreadsheet file entitled "DC-1 n SS-1 Closeout - Sector Report RevA" lists thousands of engineering documents and design documents which have never been completed to "as-built" status; many are still in the very early stages of development although the drill center to which most relate (DC-1) has been completed and in operation for about 18 months.

a. As an example, only 459 of over 7,000 documents have been issued for construction.

b. As another example, in the Controls Sector, there are 33 P&ID documents used for DC-1; of these, only 6 indicate having been approved for design; of the 6, only 2 indicate approval for construction, and none are shown "as-built."

This means that, for many critical components of the project, there is no record that the engineering work needed was actually done, or that the item was constructed in accordance with an approved engineering design.

55. While working on the BP Atlantis Project, Relator devoted many hours in meetings with the project manager and other staff members seeking to develop proce-

dures to obtain the required documents. Although plans were developed and promises made, little progress was made. The "as-built" engineering documents should incorporate the entire engineering history of the item in question; Relator doubts whether it is now possible to create proper engineering documents since their absence means that there is no recorded engineering history.

56. Much of the equipment is required to be subjected to testing during the design or construction process. The results of such testing are required to be maintained (30 C.F.R. § 250.903(b)). Those testing results are stored in the databases for which Relator was responsible. Relator learned that the nature of the records kept for the test results did not allow the correlation of a particular test result with the item which had been tested. Thus, one cannot learn from the records in the database whether a particular item was tested or what the results were. Effectively, there was no record of the necessary testing. In November, 2008, Relator was informed that BP personnel and Malcolm Vass had reached an agreement on how to correct this problem, but Relator does not know whether this corrective action was ever actually taken.

IX.
APPLICABLE LAW AND REGULATIONS AND CONTENTIONS AS TO FALSE CLAIMS

57. BP submitted to MMS a series of false records and statements, each of which falsely represented compliance with one or more of the conditions BP had to meet to acquire production rights; as a group, these false records and statements falsely sup-

ported BP's false claim of entitlement to Government-owned production for Government-owned oil and gas from Government-owned submerged land.

58. Pursuant to the regulations, BP has certified that complete "as built" documents are and will be maintained at a specified location. 30 C.F.R. § 250.903(a)(1); 30 C.F.R. § 250.905(j). The certification is false. There is no complete set of "as built" plans and specifications.

59. As a condition to beginning production, BP submitted and obtained approval of a Deep Water Operations Plan (DWOP) (30 C.F.R. § 250.293), including a purported safety hazard analysis (HAZOP) required by 30 C.F.R. § 250.292(j). Also as a condition of beginning production, BP applied for and obtained approval of its production safety system (30 C.F.R. § 250.800). This also required the submission of a HAZOP and related piping and flow diagrams. 30 C.F.R. § 250.802(e).

60. These submissions were false. Upon information and belief, Relator alleges that the HAZOPs submitted (which must be performed under specified API practices) could not be performed without P&IDs. Since, for example, only a small fraction (6 of 33) Subsea Controls Sector P&IDs were ever approved for design, performing the required safety analysis would have been impossible. As a result, the DWOP and any HAZOP within it, and the application for safety system approval and any HAZOP submitted under 30 C.F.R. § 250.802(e) were false documents, falsely representing that a proper HAZOP had been conducted when it had not.

61. Relator believes that the extensive absence of P&IDs approved for design or construction rendered a proper safety analysis impossible, and rendered any document purportedly containing such analysis a false document submitted to secure an approval to which BP was not properly entitled.

62. The BP Atlantis Project was required to proceed under the Platform Verification Program. 30 C.F.R. § 250.909(a)(1) and (b). Under that program, verification is required by a Certified Verification Agent (CVA) nominated by the company at the design, fabrication, and installation stages of the program.

63. The widespread absence of "approved for design" documents means that it would not have been possible to verify that fabrication (construction) of major portions of the subsea equipment was in accordance with an approved design as required by 30 C.F.R. § 250.917(a). Again taking the Subsea Controls P&IDs as an example, it would not be possible to verify that they were fabricated or constructed to an approved design when 29 of 33 documents were never approved for design.

64. Similarly, in the installation phase, the widespread absence of "approved for design" and "approved for construction" documents would make it impossible to verify that the subsea structures had been fabricated and installed according to an approved engineering design. Again taking the Subsea Controls P&IDs as an example, it would not be possible to verify that they were fabricated, constructed and installed to an approved design when 29 of 33 needed design drawings never existed.

65. The final verification report (30 C.F.R. § 250.918(c)) must address "the adequacy of the entire installation phase" including recordkeeping. 30 C.F.R. § 250.918(b)(5). One of the primary recordkeeping obligations is to create "as-built" documents by make needed changes to earlier documents to reflect the final, as-built condition of each item and the installation as a whole. In the case of OCS installations, the obligation includes the obligation to maintain both initial design documents and final "as-built" documents available for MMS examination in accordance with the earlier certification.

66. The final verification report was false because it did not report the absence of "as-built" documents.

67. Mr. Abbott believes and alleges that the certifications, verifications, and applications for approval which BP was required by law to provide to the Government before beginning production were false when made, because, at the time of each verification or certification, there was a widespread absence of engineering documents which were essential to that certification or verification.

a. The design, fabrication, and installation verifications were false misrepresentations because the widespread absence of approved for design or construction documents rendered the verifications false; they were used to obtain approval of BP's false claim to production rights under its lease in violation of 31 U.S.C. § 3729(a)(1), (2), and (7);

b. The final verification was a false misrepresentation for the reasons set forth in subparagraph (a) immediately above and because there was no set of final, "as-built," engineering documents being maintained by BP anywhere in accordance with its certification and the requirements of 30 C.F.R. § 250.90; it was used to obtain approval of BP's false claim to production rights under its lease in violation of 31 U.S.C. § 3729(a)(1), (2), and (7);

c. The applications for approval of the DWOP and production safety systems were false misrepresentations because the absence of necessary engineering documentation prevented proper HAZOPs, and required information could not have been submitted; they were used to obtain approval of BP's false claim to production rights under its lease in violation of 31 U.S.C. § 3729(a)(1), (2), and (7);

d. All of the false applications, certifications, and verifications discussed in subparagraphs (a), (b) and (c) were, in combination, false misrepresentations of facts for the reasons stated above; they were used in combination to obtain approval of BP's false claim to production rights under its lease in violation of 31 U.S.C. § 3729(a)(1), (2), and (7);

e. By use of its falsely obtained production rights, BP acquired possession of substantial quantities of oil and gas produced through the BP Atlantis project; based on information and belief, it sells such product and periodically ac-

counts to the Government for its sales and for the fraction of monies to be paid to the Government (as royalties); in so doing, BP uses the false applications, certifications and verifications discussed in subparagraphs (a), (b) and(c), in combination with accountings rendered to the Government, to falsely claim that the Government is entitled only to a royalty interest in such proceeds (rather than to the 100% of such proceeds to which the Government is lawfully entitled) and to obtain Government approval of such false claim in violation of 31 U.S.C. § 3729(a)(1), (2), and (7).

68. The use of the false misrepresentations in question has been undertaken by BP "knowingly," *i.e.*, either with actual knowledge of the true facts, or in deliberate ignorance of the truth or falsity of the information, or in reckless disregard of the truth or falsity of the information.

69. All of BP's applications, certifications, verifications and accountings are essential and vital components of the bargained for exchange as stated by Congress:

> "Operations in the Outer Continental Shelf should be conducted in a safe manner by well-trained personnel using technology, precautions, and techniques sufficient to prevent or minimize the likelihood of blowouts, loss of well control, fires, spillages, physical obstruction to other users of the waters or subsoil and seabed, or other occurrences which may cause damage to the environment or to property, or endanger life or health."

43 U.S.C. § 1332(6).

Congress further established that compliance with this policy and the statute and accompanying regulations are made a part of each and every lease. 43 U.S.C. § 1334(a).

70. In essence, the Government sells hydrocarbons to the producer (BP) who is allowed to extract those hydrocarbons from undersea (which advances the Government's interest in increasing domestic oil and gas production and produces revenue for the Government) and to do so in a specific manner which advances the Government's interest in avoiding desecration of the environment and threat to human life.

71. What the Government pays for, when it grants a producer the right to retain a portion of the proceeds for itself and remit the remaining proceeds (royalties) to the Government, includes compliance with the Government's specifications (designed to protect the environment and human life and health) concerning the manner of extraction of the minerals, as well as the obligation by the operator to truthfully certify and verify compliance. The statutes make clear that the *only* companies eligible to take federal oil and gas production and receive the benefit of the lease provisions are those who comply with the statutes, regulations and lease requirements.

X.
DAMAGES TO THE GOVERNMENT

72. Under the provisions of 43 U.S.C. § 1334:

> The issuance and continuance in effect of any lease, or of any assignment or other transfer of any lease, under the provisions of this subchapter shall be conditioned upon compliance with regulations issued under this subchapter.

73. BP's knowingly false statements and records submitted to secure approvals of its false claims and monies to which it is not entitled, and its violations of the lease, render it ineligible to take federally owned minerals under the lease, or to retain its share of the value of those minerals it has taken in reliance on lease provisions.

74. The Government has been damaged by an amount at least equal to the value of the property taken (estimated to be at least $5.6 billion) less any royalties previously paid, and is entitled to recover treble damages.

75. Additionally, BP is liable for civil penalties prescribed by 43 U.S.C. § 1350 in the estimated amount of at least $12.8 Million.

76. Operation of the BP Atlantis Project in its present condition poses an immediate threat of serious, irreparable, or immediate harm or damage to human life and to the marine environment for which reason the Government should take immediate action to halt production.

XI.
JURY REQUEST

77. Relator requests a trial by jury.

XII.
PRAYER

WHEREFORE, PREMISES CONSIDERED, Relator prays that the Defendants be cited to appear and answer herein, and that this cause be set for jury trial; that upon trial, that the Government recover three (3) times the amount of its actual damages, as well as civil penalties, and such other and further relief as the Government may justly show itself to be entitled, and that Relator recover such monies, including attorney's fees and expenses, as he may be justly authorized to recover pursuant to law, and have such other and further relief as he may be entitled to receive, and general relief.

Respectfully submitted,

By: _____
DAVID L. PERRY
State Bar No. 15800000
Federal I. D. No. 5685
DLPerry@perryhaas.com
ATTORNEY-IN-CHARGE

RENE HAAS
State Bar No 21406800
Federal I.D. No. 5680
RHaas@perryhaas.com
ATTORNEYS FOR PLAINTIFFS

OF COUNSEL:
PERRY & HAAS
2100 Frost Bank Plaza
P. O. Box 1500
Corpus Christi, Texas 78403-1500

Phone: 512/880-7500
Fax: 512/887-9507

and

Patricia A. Shackelford
State Bar No. 00788393
Federal I.D. No. 18745
SHACKELFORD LAW FIRM
P.O. Box 419
Corpus Christi, TX 78403
pshackelford@Shackelfordlawfirm.com
Telephone: (361) 880-7543
Fax: (361) 887-9507

and

Gerald M. Birnberg
State Bar No. 02342000
Federal I.D. No. 2120
Williams, Birnberg & Andersen, L.L.P.
2000 Bering Drive, Ste. 909
Houston, Texas 77057-3746
Birnberg@wba-law.com
Telephone: (713) 981-9595
Fax: (713) 981-8670

EXHIBIT 8

IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF TEXAS
HOUSTON DIVISION

UNITED STATES OF AMERICA EX REL. KENNETH W. ABBOTT; KENNETH W. ABBOTT, INDIVIDUALLY; AND FOOD & WATER WATCH, INC.;	)	
Plaintiffs,	)	CIVIL ACTION
v.	)	NO. 4:09-CV-01193
BP EXPLORATION AND PRODUCTION, INC., ET AL.;	)	JURY DEMANDED
Defendants.	)	

****

ORAL AND VIDEOTAPED DEPOSITION OF
KENNETH W. ABBOTT
DECEMBER 16, 2011

****

ORAL AND VIDEOTAPED DEPOSITION OF KENNETH W. ABBOTT, produced as a witness at the instance of the DEFENDANTS, BP, P.L.C.; BP AMERICA, INC.; BP EXPLORATION & PRODUCTION, INC.; AND BP PRODUCTS NORTH AMERICA, INC., and duly sworn, was taken in the above-styled and numbered cause on DECEMBER 16, 2011, from 8:23 a.m. to 4:21 p.m., before Donna L. Garza, CSR, in and for the State of Texas, reported by machine shorthand, at the law offices of WATTS, GUERRA, CRAFT, LLP, 2402 Dunlavy, Suite 300, Houston, Texas, pursuant to the Federal Rules of Civil Procedure and the provisions stated on the record or attached hereto; that the deposition shall be read and signed before any notary public.

A. No, sir.

Q. And you had nothing to do with the MMS regulations?

A. No, sir.

08:31 Q. You had nothing to do with the production safety system?

A. Not with the technical design. But with the planning, scheduling, and monitoring of completion of drawings for those systems, I did.

08:32 Q. Now, you had no involvement with any of the Atlantis regulatory filings?

A. No, sir.

Q. You never met with Dennis Sustala?

A. No, sir.

08:32 Q. Never met with Simon Todd?

A. Simon Todd, I have met.

Q. Okay. Did you ever meet with Brian Domangue?

A. No.

Q. Tommy Laurendine?

08:32 A. No.

Q. Mike Saucier?

A. No.

Q. Arvind Shah?

A. No.

08:32 Q. And with regard to Sustala, Domangue,

A. Yes.

Q. Okay. Now, I think we've -- to be clear, you've never been on the Atlantis platform?

A. No, sir.

08:50 Q. Okay. And you said you weren't even around at first oil when the projects team was turning over to operators the systems that were going to start up for operation. You had no involvement in it?

A. No, sir.

08:50 Q. And the fact is, sir, you weren't around, you don't know what documents and drawings were available to the operators of the Atlantis platform at the time of first oil, correct?

A. Yeah. I have a pretty good idea based on my

08:51 experience with the document control log when I came in, that some 90 percent of the drawings were not as-built. So it stands to reason they would not have had as-built or engineer-approved drawings when they turned them over.

08:51 Q. All right. So you're making some inferences based on some things you saw at the end of 2008?

A. Not inferences. The -- the document control log is the bible for an engineering company. It shows the status of drawings. If those drawings have not been

08:51 issued, it says that. And when I came in 90 --

90 percent were not approved for construction by BP engineers, and 5 percent of the remainder are -- were not issued as-built. Only 5 percent were issued as-built, and that's a fact.

08:51 Q. Okay. So you've never spoken to any of the operators, the people who were actually working on the Atlantis platform at the time of first oil, right?

A. Of course, I have. I talked to Ron Berger, the operations manager, and I've also seen E-mails from

08:52 Anita Oza and Christy, who are the operations document control people and internal auditors saying that they didn't have all the drawings for operations.

Q. We'll follow up with that in a few minutes.

Sir, do you have any knowledge about -- do

08:52 you claim that you have any knowledge about what drawings, if any, an operator on the Atlantis platform needs on a day-to-day basis?

A. Well, from my 30 years of experience as a project controls manager, when we turn over a plant in

08:52 every job I've ever worked, we turn a complete package of as-built drawings over to the operators. The operators get involved in the project early and insist that they get that. That didn't happen on Atlantis to the best of my knowledge.

08:53 Q. To the best of your knowledge, but your

knowledge is limited because you weren't there at the time of first oil?

A. It -- it wasn't -- I wasn't there, but it's not just my knowledge. This is what I learned from many BP sources, that the drawings were not complete, and they were not as-built when that unit went up.

Q. Okay. When you say "many BP sources," who do you claim you learned that from?

A. I learned it from Barry Duff's E-mail and personal conversations with him. I learned it from some -- from Tinikka Curtis, the document control administrator who worked for me. I learned it after talking with Bill Broman, who knew there was a big problem with drawing completion. I learned it from the BP ombudsman office and from the director of that office, who has publicly acknowledged that the drawings were not complete at startup.

Q. Anybody else?

A. In meetings with the engineers. Several meetings during November, December, we discussed the status of the meet- -- of the drawings, and they admitted that the drawings were not complete. And they -- they just seemed to not understand why they needed to approve them.

Q. Anybody else?

THE WITNESS: Yeah.

Q. (BY MR. MACE) Was there anything else you wanted to say?

A. No.

09:04 Q. Okay. And I -- you know, we've been having a pretty good run, but you talked over me one time. I mean, let's -- let's try to --

A. Sure.

Q. -- give each other the courtesy. I'll finish

09:04 my question --

A. Absolutely.

Q. -- I'll let you finish your answer.

A. Sure.

Q. All right. So when you used the phrase "not

09:04 complete" -- you've used it several times today. When you say the drawings were not complete, what do you mean by that?

A. Well, in engineering, you know, there's several phases of -- of complete a drawing or do --

09:04 create a drawing, get the client to approve it, such as issue for design, the client approves it, and there's different stages of approval. Issue for construction, the client approves it after any changes are made. So it's a back-and-forth process between the engineer and

09:04 the owner.

And what I'm saying is that for about 90 percent of the drawings in the BP drawing log, there was no approval at any stage, either at issue for design or issue for construction, by a BP engineer and only 5 percent of the total drawings were ever issued as-built.

Q. Where are you getting these numbers from, 90 percent, 5 percent?

A. From the DC-1 and SS-1 spreadsheet document log.

Q. When did you calculate them?

A. Well, the document -- the document log was prepared by Barry Duff and Tinikka Curtis. I came in and summarized them formally later, probably sometime in 2010.

Q. 2010?

A. Yes, sir.

Q. Okay. So this 90 percent, 5 percent, that's nothing that you came up with factoring the five months you were working at the Technip offices?

A. Oh, no. I knew -- I knew then that approximately 90 percent of the drawings were not completed.

Q. But in terms of coming up with any percentages, that was something that came after you

Q. Okay. But in terms of just driving around day to day, filling it up with gas, going wherever you need to go, turning the wipers on and stuff, you don't need to look at the owner's manual, do you?

09:11 A. I don't think you do every day, no, but you need -- in my opinion, you need to look at it initially pretty well to understand where everything is and how it works.

Q. Okay. So we got off on this because I asked

09:11 you what drawings, if any, do you contend that an operator on the Atlantis platform needs on a day-to-day basis.

And do you have any idea about that?

A. No, sir. All I can tell you is that I've

09:11 worked in this industry for 30 years as a project control manager and in -- and our big charge is to make sure -- is to do a plan and then work the plan, and that means we need to make sure that the drawings are being completed and that at some point the goals were being

09:11 achieved and that we -- you know, that we have a final as-built package, turnover package for the operators of all types of plants.

And everywhere I've ever worked -- and I've worked for major engineering and construction

09:12 companies -- that's always been the case. That's always

done. It's in the contracts that they -- that they prepare. It's in the invitations to bid. People ask for as-built, marked drawings.

And the unique thing about BP is they had the procedures that called for that to be done and it just was not done, to the best of my knowledge.

Q. When you -- the thing you're talking about, getting all the documents together and getting them -- the documents organized and turned over, that -- you're referring to project closeout, right?

A. No, sir. I'm referring to turning over drawings to Operations that are as-built so that they have a very much needed road map of how that -- the final condition of that facility because things change, of course, during construction.

I work construction and engineering. I know there's a lot of changes in construction, and those operators out there need to know exactly where that equipment is and how it functions for their own safety and for the safety of the Gulf.

Q. Now, you -- you said that you've got 30 years of experience, but none of that experience has been with a floating offshore oil and gas facility, right?

A. No. Of course it has been.

Q. Okay. What other floating offshore oil and

A. Oh, I don't remember the names of them. I know there was several overseas and these were all, you know, package units that go on the platforms for compression and gen- -- and power generation.

09:14 Q. So when you're saying "package units," they're modules or skids, some specific piece of equipment that then would get installed?

A. Right, that would go on -- onto the top of the platform, correct.

09:14 Q. But that didn't have anything to do with what drawings an operator needed on a day-to-day basis out on the platform?

A. Well, of course, they needed the complete set of those drawings, and we would issue as-built drawings

09:15 that showed the -- you know, the final status of our modules. So they would need those.

Q. Now, let's define want versus need. Now, somebody could want all kinds of things, but in terms of what they needed, what they actually needed to refer to

09:15 on a day-to-day basis, do you claim you have any knowledge about that?

A. I think I have a very good knowledge as a project control manager. On every project I've ever worked, Operations was always a part of it, and

09:15 Operations personnel would push and push to make sure

that what we produced as part of that project was as-built drawings that showed exactly the final status and -- of the -- of the project and of the facility when we completed it.

09:15 Q. The other two companies you listed -- Global Industries, what floating offshore facilities did you work on there?

A. There I worked on primarily demolitions. You know, BOEMRE has decided to demolish a lot of the

09:16 existing, old facilities, and so we were heavily involved in a project called "RIPS" in which we were removing existing facilities. And also, now, of course, I'm on tubular valves, which is new pipe lay and -- and subsea equipment.

09:16 Q. And that's what you meant when you said Technip to me?

A. Yeah.

Q. Okay. So in terms of the last time that an operator out on the Atlantis platform -- so we're

09:16 sitting here on December the 16th of 2011.

In terms of the last time that an operator at the Atlantis platform needed to look at a P&ID for any of the subsea equipment, you can't tell me when that would be?

09:16 A. I'm sorry. Would you re- -- restate that?

A. Don't know.

Q. And, in fact, out of the dozens of times that oil and gas flow has been stopped out at Atlantis, you can't point to a single drawing that any operator on Atlantis has needed to stop the flow of oil and gas, correct?

A. I wouldn't have knowledge of that.

Q. Sir, do you know what HMI screens are on Atlantis?

A. I'm sorry?

Q. Do you know what the HMI screens are on Atlantis?

A. No, sir.

Q. Never heard of that?

A. I don't know that term.

Q. Now, you've told us several times you're not an engineer, you've never been up on the Atlantis platform, and you weren't involved in the testing or certifications.

But to be clear, you can't say that any component part or system on the Atlantis facility was improperly built?

A. I can say that the engineering was not completed on that project, it was not approved by the integrator, the owner company, and there were no

as-built -- or there were very few as-builts issued. And because of that, incomplete engineering results in unsafe production facilities. That's been proven again and again.

09:19 Q. All right. You're talking in generalities. I'm asking --

A. No, I'm talking specifics.

Q. There you go interrupting me, sir.

A. I'm sorry. I didn't finish.

09:19 Q. I'm sorry. Go ahead.

You're talking about generalities. I'm talking about specifics. Is there any specific component part out at the Atlantis facility that you're saying was improperly built?

09:19 A. I'm saying that all of them could potentially be improperly built because they -- they did not have good, complete engineering as a basis.

Q. Okay. Nothing specific?

A. No.

09:19 Q. Okay. Is there any specific component part out at the Atlantis facility that you're telling me was improperly installed?

A. I can't point to a specific one, no.

Q. Is there --

09:19 A. Not an engineer.

Q. Okay. And when you use the phrase "production safety system" when you answered my question about the production safety system earlier today, what -- what did you understand me to mean by the production safety system?

A. The drawings that were part of the control tab on the document log.

Q. Okay. Nothing more than that?

A. No.

MR. MACE: Okay. Thanks for the clarification, Counsel.

Q. (BY MR. MACE) Sir, when I asked you the question -- we talked about the fact that construction continues, new construction was ongoing after some equipment is up and operating, other equipment is being added, there's this manifold change-out. And I asked you the question, the P&IDs for that subsea equipment couldn't be complete until all of the construction was complete, and you disagree. Why -- why do you disagree with that?

A. Well, when they started up the production in 2007, they should have issued P&IDs that showed an as-built situation at that point for all the drawings, not just P&IDs. And that didn't happen.

Q. Okay. So for all of the -- all of the

Q. Let me ask you a better question.

Other than P&IDs, what other type -- are you --

A. Oh, what other type --

09:59 Q. Let me make sure I'm understanding your testimony first. Are you saying -- are you telling the jury, sir, that you have personal knowledge that there were other drawings, other than P&IDs, that were needed for the equipment that was operational, going into

10:00 operation at first oil, that were not complete?

A. Right.

Q. What other drawings?

A. Mechanical drawings, control systems, structural drawings, electrical drawings, manifold

10:00 drawings. The -- the whole gamut of engineering drawings that should have been completed when the unit started up for DC-1. The only -- that 90 percent of them were not as-built -- I'm -- I'm sorry, were not approved by BP engineers.

10:00 Q. All right. And if I asked you to go through the specifics on the manifold, which drawings are the electrical or any one of these ones, you wouldn't be able to give me the specifics?

A. No.

10:00 Q. All right. Now, sir, did you -- did you ever

A. Correct.

Q. And do you recall that they want to do add attributes to the documents so they could use SPF?

A. Right. As a way of searching for those documents.

Q. Did you know what SPF was, smart plant foundation? Have you ever used that before?

A. No.

Q. Okay. Do you know what it is?

A. No.

Q. Okay. And in terms of Documentum, you said that you never even had access to them. You would -- if you needed something or wanted to know something, you would go through Tinikka, right?

A. Correct. Or through the -- the Technip Documentum. I could ask them for drawings too.

Q. Okay. And whom at Technip would you ask to do that?

A. Malcolm Vass, the project manager, typically.

Q. But certainly whether for Technip or for BP, you were never in charge of Documentum, right?

A. For BP, I was in charge of document control, which meant that I was responsible to make sure that Documentum -- and that the engineering was correctly being done and -- and entered into Documentum at BP.

Q. Okay. Now, when Mr. Duff sent this to you in November of '08, did you do anything with it?

A. Yes. We had people on our team that were -- I believe one of our cost engineers was actually doing a closeout of the purchase orders and contracts.

Q. Who was that?

A. I can't remember his name exactly. I think it was -- his first name was Jay.

Q. Okay. And what about in terms of the -- anything else? So that would have been on the closeout of the contracts. What about any of these closeout recommendations, other aspects?

A. Tinikka was working to ensure that all drawings were, in fact, as-built and turned over.

Q. Okay. Now, on that, I know that you said that you saw the log, you saw a drawing log.

Did you ever actually open any of the drawings in the log?

A. Well, I looked at several of the drawings, the P&IDs, etc., to verify that they weren't completed or as-built, but basically, we -- Tinikka was using the document log that Barry and her created to try to assess the status of the drawings.

Q. So in terms of -- give me a number a number, a ballpark number, during the approximate five months you

were at Technip's offices, how many actual drawings did you look at other than the log? I'm getting away from the log, and the actual drawings.

A. Probably, less than a hundred.

10:24 Q. And which specific ones did you look at? Do you know?

A. I looked at some of the P&IDs. I can't remember the others.

Q. And you can't tell me which -- let's go with
10:24 the P&IDs. You can't tell me for which wells, if any, you looked at P&IDs for, right, in terms of specifics?

A. Not specifically.

Q. All right. Let's go to something else you were sent in November. So this will be Exhibit 9.

10:24 (Marked Abbott Exhibit No. 9.)

Q. (BY MR. MACE) All right. So here's another short E-mail Mr. -- oh, this actually starts from you, Mr. Abbott, at the top. Let's go to the one below that. All right. So it's Mr. Duff, November 12 of '08, to
10:25 kennethabbott@swifttechnical.

Do you see that?

A. Are you talking about the second E-mail?

Q. Yes, sir. Yes, sir.

A. Correct.

10:25 Q. And the subject is " DC-1 closeout matrix,"

Q. You got them from your lawyer?

MR. PERRY: It -- it was not a FOIA request, but it -- they were obtained after they had been provided to MMS. MMS turned them over to other people --

MR. MACE: Okay.

MR. PERRY: -- who made them public.

Q. (BY MR. MACE) So it's a group of documents that BP had turned over to the government agency, MMS, but then went to a congressman, then got to you somehow, right?

A. Correct.

Q. Okay. There's nothing that you obtained through your own work?

A. No. One can -- no, I can only speak to what I -- you know --

Q. Right.

A. -- what I did there.

Q. All right. Now, when Mr. Duff sent you this E-mail on September 2, did you take any actions based on it?

A. Well, what I -- what I did was -- as part of the project control manager's responsibility, was I -- I worked to confirm this by looking at the document log to see if this was really an issue, if the drawings were

not complete, and by talking to the appropriate people like Tinikka, and the engineering leads, and Bill Broman, and others within the company. And I confirmed that it was an issue. And as part of my job as a
11:23 control manager was to identify the issues and work them. And I -- I had fully believed that Barry had been trying to work the issue since he gave me this E-mail, because he said it was an issue. And he wanted me to be aware of it.

11:23 And so after I had confirmed it, then I tried to -- I come up with a plan which Bill Bro- -- Broman issued to the engineers to try to address the un- -- incomplete engineering. And, you know, we proceeded to work on the that, or the leads did. It
11:24 never got anywhere. And when I left, we still -- to my knowledge, we still had just as many drawings incomplete, 90 percent of the engineering.

And, you know, I feel like that's a really dangerous situation for that rig.

11:24 Q. Sir, the plan to work the issues, those are the documents we just went through where you guys kind of modified what Duff was doing, and you and Tinikka came up with a plan that you gave to Garland, and then Broman sends it out around Thanksgiving; that's what
11:24 you're referring to?

A. Correct.

Q. Okay. Sir, you don't claim to have any firsthand knowledge of any damage to human health or the environment from the Atlantis facility, correct?

11:24 A. I believe that incomplete engineering results dangerous facilities. It's been proven in the past on all kind of plants and structures. And I think incomplete engineering on BP has a great potential to result in very unsafe conditions and -- and great damage

11:25 to the Gulf and to people out there, yes.

Q. Let me focus you on the present. So the present and the past. You know that Atlantis has been operating over four and a half years, right?

A. Correct.

11:25 Q. And to date, sitting here December 16 of 2011, you don't claim to have any firsthand knowledge that Atlantis has caused any damage to the human health or the environment, correct?

A. Correct.

11:25 Q. Okay. And with respect to you, you don't own any property along the coast or in the Gulf of Mexico, correct?

A. No, sir.

Q. Okay. And you --

11:25 A. I have as a child -- I had a neighbor who had

charged with enforcing offshore regulations.

Q. We can certainly agree that MMS has far more expertise than you do with respect to offshore oil and gas facilities?

13:45 A. No, I can't assume that at all.

Q. Okay. So, you think you have more expertise with offshore oil and gas facilities than the people at MMS?

A. No. I'm sorry. I just don't know because I

13:46 don't know enough about how they work.

Q. Okay.

A. I know that I know probably a lot about what's needed in terms of getting engineering done and scheduling it and making sure it's happening; and I know

13:46 on the BP Atlantis project, the drawings were not being completed and that was a very dangerous situation and I was in a position to know and I reported it.

Q. Let me just be clear in my question because my question deals with expertise in offshore oil and gas

13:46 facilities. So focus on that.

Do you agree, sir, that MMS has far more expertise than you do with respect to offshore oil and gas facilities?

A. Sir, I just don't know.

13:46 Q. Okay. Isn't it a fact, sir, that you

Where are you getting that from?

A. From their own procedures. They were to approve the drawings, and they were to complete the drawings as-built, and they didn't.

15:11 Q. Okay. But my question was on certifying to the government. Where do you -- where do you -- where do you cite anything that BP had to certify something to the government?

A. I know that when platforms are -- hit certain 15:11 stages, they have to be certified to the MMS. I don't know the details of it. But I know they have to include, you know, the drawings that are required. And I know that those drawings weren't available when I got there, so they could not have been properly certified 15:11 back in 2007.

Q. We can agree in terms of what those regulations say, MMS would know more -- more about that than you would?

A. Once again, MMS is the government agency that 15:11 regulates offshore. I have no idea of how they function or how well they function, and I just can't comment on that.

Q. Okay. Mine is a different question, though. You haven't even read the regs. You'll agree that MMS 15:11 would know more --

week: "During his work with Defendants, Abbott learned of Defendants' failure, one, to obtain design approvals and certifications by registered professional engineers."

15:47 A. I'm sorry. Where was that at?

Q. Yeah, the last sentence on 6 that carries over to 7. You say: During your work with Defendant -- so that would have been between August 18 of '08 and February 3 of '09 -- you learned of the Defendants' 15:47 failure to obtain design approvals and certifications by registered professional engineers.

You didn't learn any such thing while you were there, did you, about registered professional engineers?

15:47 A. Well, sir, I did -- to answer your question, I did learn that the drawings were not approved as it says.

Q. But it also talks about registered professional --

15:48 A. Oh, no.

MR. PERRY: Excuse me. Excuse me. The witness --

MR. MACE: I thought he was done, sir. If you weren't done, please finish.

15:48 THE WITNESS: Yeah, I'm not.

I did learn about the design approvals not being done per their own doc- -- per BP's own tracking documents, and I also noticed during the process that many of the drawings did not have engineering stamps on it. So I believe it to be correct that there were many drawings that were not stamped by professional engineers as well.

Q. (BY MR. MACE) Let me -- you make a statement over on 13. Turn over there, please.

A. (Complies.)

Q. And you make a statement toward the bottom third of the page referring to MMS, that they lack the appropriate skills and experience to carry out the investigation.

What was your basis --

MR. PERRY: I'm not going to let him comment on that because that claim involves discovery by counsel as well as -- actually, I think the witness doesn't have any personal knowledge on it.

MR. MACE: All right.

Q. (BY MR. MACE) You don't say "based on information and belief," do you, Mr. Abbott, in that response?

MR. PERRY: I'm not -- I'm going to instruct him he doesn't have to answer that.

located above the surface of the water.

Q. (BY MR. MACE) Let me ask you, Mr. Abbott, for your understanding when -- what do you understand "subsea equipment" to mean?

15:53 You -- when we -- let me just back up a step, because I thought when we went through terminology at the beginning of the day we defined "subsea equipment" as anything below the water line.

Isn't that what we had said?

15:53 A. I don't recall. I do know that subsea equipment includes that, but it -- but in the case of controls, it would also include the whole entire subsea -- all the way from the wellhead up to the control panels, which is on the platform. That's --

15:54 that's what I understand it to be.

Q. Sir, were you aware that you can be held responsible for costs if you fail to admit something that we have to then prove up at trial?

MR. PERRY: I'm going to instruct him he

15:54 doesn't have to answer that. That's harassing.

Q. (BY MR. MACE) I take it from your testimony I've heard already that you've done nothing -- you personally, sir, have done nothing to look into what payments BP has or hasn't made to the U.S. Government

15:55 with respect to royalties from the Atlantis Field?

I, KENNETH W. ABBOTT, have read the foregoing deposition and hereby affix my signature that same is true and correct, except as noted above.

Kenneth W. Abbott

KENNETH W. ABBOTT

STATE OF TEXAS *
COUNTY OF HARRIS *

Before me, NAM TRINH, on this day personally appeared KENNETH W. ABBOTT, known to me, or proved to me under oath or through TXDL (description of identity card or other document), to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that they executed the same for the purposes and consideration therein expressed.

Given under my hand and seal of office on this, the 17th day of JAN, ~~2011~~ 2012.

NAM QUOC TRINH
Notary Public
STATE OF TEXAS
My Comm. Exp. April 21, 2012

Notary Public, State of TEXAS

My Commission Expires: APRIL 21, 2012

THE STATE OF TEXAS)

COUNTY OF HARRIS)

I, DONNA L. GARZA, a Certified Shorthand Reporter in and for the State of Texas, do hereby certify to the following:

That the witness, KENNETH W. ABBOTT, was duly sworn by the officer and that the transcript of the oral deposition is a true record of the testimony given by the witness;

That the deposition transcript was submitted on December 20, 2011, to the witness, or to the attorney for the witness, for examination, signature, and return to Worldwide Court Reporters, Inc., by January 21, 2012.

That the amount of time used by each party at the deposition is as follows:

Mr. Damond R. Mace - 5 hours, 43 minutes

Mr. David L. Perry - No time

I further certify that I am neither counsel for, related to, nor employed by any of the parties or attorneys in the action in which this proceeding was taken, and further that I am not financially or

otherwise interested in the outcome of the action.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, on this, the 16th day of December, 2011.

Donna Garza

DONNA L. GARZA, TEXAS CSR NO. 4785

Expiration Date: 12-31-13

WORLDWIDE COURT REPORTERS, INC.
Firm Registration No. 223
3000 Weslayan, Suite 235
Houston, Texas 77027
(800) 745-1101

EXHIBIT 9

From: Duff, Barry C <Barry.Duff@bp.com>
Sent: Friday, August 15, 2008 8:51 AM
To: Naseman, Bill E <nasemawe@bp.com>; Broman, William H(HOU) <bromanwh@bp.com>
Subject: FW: P&IDs For Operations

Bill/Bill,

Per other e-mails, Tinikka has been asked by the Operations Document Control person (Christy), to provide all the Subsea P&IDs **regardless of their status** (e.g, complete or not complete,handed over or not handed over). Christy will not say who has made the request, but we believe it is coming from Nita Oza to support an IM Evaluation she is leading. The reason this is not a straight forward request is the document number scheme is so fundamentally flawed that all drawings are grouped under the document type DWG vs. Mechanical, Electrical, P&ID, PFD etc).

Some back ground on the P&ID Request from Operations. As you can see from the note below. The P&IDs for Subsea are not complete have have not been approved or handed over to Operations.

The current procedures are out of date. However in principle, the project document control person (Tinikka), function is to facilitate the handover of approved and final documents to the Operator (BP). For Atlantis this is Christy in Alastair's group.

The risk in turning over drawings that are not complete are:

1) The Operator will assume the drawings are accurate and up to date. This could lead to catastrophic Operator errors due to their assuming the drawing is correct. Turning over incomplete drawings to the Operator for their use is a fundamental violation of basic Document Control, the IM Standard and Process Safety Regulations.

2) Having the project document control person turnover drawings that are not complete, places the onus on her that they are the most current version. Currently there are **hundreds if not thousands** of Subsea documents that have never been finalized, yet the facilities have been turned over. In some cases, Tinikka does not have all the versions. Turning over the version she has, runs the risk of the wrong version being used.

The point here is that even if we condoned handing over documents that were not approved/handed over, we run the risk of not handing over the most current version, (the one theoretically closest to being the most accurate).

To re-iterate, it is fundamentally wrong to turn over documents to Operations (for Operations use and purposes), before they have been formally finalized and Handed Over to Operations.

I have instructed Tinikka to not honor this request and to refer them to me. I may require both of your support in responding to this request.

Please contact me if you have any questions.

Best Regards,

EXHIBIT 10

IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF TEXAS
HOUSTON DIVISION

UNITED STATES OF AMERICA EX REL. KENNETH W. ABBOT; KENNETH W. ABBOT, INDIVIDUALLY; AND FOOD & WATER WATCH, INC.,	)	
PLAINTIFFS	)	CIVIL ACTION NO.: 4:09-CV-01193
VS.	)	JURY DEMANDED
BP EXPLORATION AND PRODUCTION INC., ET AL.,	)	
DEFENDANTS	)	

****

ORAL AND VIDEOTAPED DEPOSITION OF BARRY DUFF
SEPTEMBER 12, 2011
VOLUME 1

****

ORAL AND VIDEOTAPED DEPOSITION of BARRY DUFF, produced as a witness at the instance of the Plaintiff, and duly sworn, was taken in the above-styled and numbered cause on September 12, 2011, from 1:34 p.m. to 5:52 p.m., before Tammy S. Brown, CSR in and for the State of Texas, reported by machine shorthand, at the offices of Fulbright & Jaworski, LLP, 1301 McKinney Street, Suite 5100, Houston, Texas, pursuant to the Federal Rules of Civil Procedure and the provisions stated on the record.

the sub -- and you -- you were in subsea, right?

A. Right.

Q. When did you -- when did you get that position?

A. Fall of 2006.

Q. So, you -- you were the Project Services Lead from the fall of 2006, until you left that position in September of '08?

A. Right.

Q. Okay. Did you have much interface -- well, let -- strike that. Let me -- let me ask you this: When you became the Project Services Lead, of course you had -- did you have document control as one of the things that you supervised?

A. No, I didn't.

Q. How was document control being done when you first became the Project Services Lead?

A. The -- if it hasn't been explained, the -- at that time, BP was building four different hubs, new -- new platforms, and they had a -- a large capital program. And Mustang Engineering was the project management contractor responsible for the overall program. And Technip was responsible for the subsea portion.

And the way the document control system was set up was Technip would be the administrator of all the subsea documentation, collect it from all the vendors and

suppliers, aggregate it with all their documents, and then they would turn it over to Mustang, then Mustang would turn it over to BP. That -- that was the process that was set up.

And there were no project services folks involved on the subsea side. On the Mustang side, there is a gentleman named Mike Garland who reported to the ATLANTIS Project Services Manager, Bill Naseman. And that's kind of where it came together over there.

There was really nothing being done on -- on my part or on my group's part until we -- we got to the point of wanting to close out the original project. And we have a whole closeout procedure, and that's when I was asked to assist with trying to close out all the ATLANTIS subsea documents. And so, that was about April of '08.

Q. So, in about April of '08, you were asked to assist on the closeout?

A. Right.

Q. Is closeout and handover more or less the same thing?

A. No. Closeout is -- it's a lot of things, but it's closing out contracts, POs, closing out drawings and documents and procedures. It's -- you know, if we were -- weren't an ongoing program, it would be closing out our lease in the building that we have, or, you know, fab

A. When Tinikka came on, she reported to me and I reported to Bill. And then -- then that Mike Garland,the gentleman I mentioned earlier, he reported to Bill.

Q. Well, Tinikka gave us the name of her predecessor, which I wrote down but I don't remember it now; but wouldn't her predecessor have reported to Bill Naseman?

A. I don't know. I -- like -- like I say, that was a different project team prior to Tinikka coming to work for me and --

Q. Well --

A. -- I'm not as familiar with how they were organized.

Q. Well, the -- the documents that I have seen going back to 2002 and 2003 say that there's going to be a project document management control or document control that will operate a project document management system that will be housed or use a Documentum database kind of system. And that the project documents will be handled through that system.

A. That -- that was done.

Q. That was done?

A. Uh-huh.

Q. Okay. And when you took over the subsea document management, were you inheriting documents that were in

BP's product document management system --

MR. HUNTER: Objection, form.

Q. (BY MR. PERRY) -- in its Documentum databases?

A. I guess, in a way you could see it that way, but it was the -- again, the -- the way the system was set up was we worked within Technip's document control system. We finalized -- ultimately the process was to finalize documents in Technip's system, then give them to Mustang electronically.

And then Mustang would transfer them to BP, and then they would go in Documentum. So, it was at the end of the cycle that they go in to Documentum. Until then, they're in contractor databases.

Q. Well, Ms. Curtis has described a system in which she was receiving documents directly from Technip into something called a dropbox --

A. Right.

Q. -- which she would then put in to Documentum?

A. Yeah. And it -- what the -- ultimately, that's what we went to, because the -- basically, the -- the way the project evolved, Mustang was being de-mob'd and they weren't providing that function anymore.

So, she took over and ultimately started providing them to BP -- to BP Operations.

Q. Had she already taken that over before you came

is --

A. It's rare.

Q. -- is there -- yeah.

A. It's rare to do it that way.

Q. You're -- you're not going to have a company like Mustang be on a project like ATLANTIS for a lump sum, are you?

A. Huh-uh.

Q. Okay. So, basically, Mustang -- and probably most all the other contractors -- certainly Mustang and Technip, were in this for time and materials, right?

A. Yes. That's how they were both set up.

Q. And from the standpoint of the project, it's important to the project to keep costs down, is it not?

A. It's a part of our -- our metrics on any project --

Q. Yeah.

A. -- cost and scheduling, to hit our performance targets.

Q. You've got -- you've got performance targets on both cost and scheduling; and you don't want to go over on either end, right?

A. Try not to.

Q. And do you, from time to time, get asked to come in better than what --

A. Uh-huh.

Q. -- your targets are, lower in cost and quicker on schedule?

A. I think we -- in the past, that would happen. I think the -- what I've seen more recently with the company, they've become a lot more realistic with the expectations, and they let the projects set their own targets rather than them be dictated to them.

Q. What -- what do you mean -- tell me about what was happening in the past that you have reference to?

A. I've -- just in general terms, you would have -- you would do your best and come up with what you think something would cost, and how long it would take. And you would get management challenges to improve that.

Q. I've heard -- I've heard of some particular BP instances where there would be, in effect, directives that come down that say, well, we want you to cut your costs this year by 25 percent.

MR. HUNTER: Objection, form.

Q. (BY MR. PERRY) Have you ever received any directives like that?

A. There's been -- I won't say 25 percent, but there's been certain things like that that have come down over time.

Q. Where you would receive a kind of an arbitrary

Q. -- Sills. But when Sills left, Todd moved up so that rather than just having ATLANTIS, he had a bunch of stuff under him, did he not?

A. Ultimately, they consolidated the ATLANTIS and THUNDER HORSE programs under Simon Todd.

Q. Okay. So, first he had ATLANTIS and THUNDER HORSE?

A. (Witness nodded head).

Q. And then -- and hasn't he now moved up to have the whole Gulf of Mexico or something?

A. And he's head of production.

Q. Okay. All right. So -- but anyway, back to the point, at this -- at this moment in history, Dirk Smit was sort of the functional top person in the ATLANTIS project; and Naseman -- Naseman had talked to him on this subject. Right so far?

A. Right.

Q. And he goes on to say, he's discussed it a little and he has secured Dirk's commitment to help out here to develop the content of the subsea closeout. Dirk has agreed to assist the two of you developing this during the week of May 5. He has also agreed to help raise the priority with team leads if required.

By raising the priority with the team leads, what -- what is being referred to there? Do you -- do you

know?

A. I took it to mean to work down the document list.

Q. Essentially to go down the document list, more or less one by one, and do whatever was needed to get them closed out?

A. Right.

Q. And I think what you're saying -- well, let -- let me see if I understand. First of all, some of these documents needed to be upgraded to be as-built.

MR. HUNTER: Object, form.

Q. (BY MR. PERRY) Is that true?

A. Revised. Won't necessarily mean as-built.

Q. Well, isn't it true that some of them were going to need to be revised to where they were as-built?

MR. HUNTER: Objection, form.

A. I would have to look at the particular ones. They -- what I did was I just took Technip's data register and organized it. Just as it said, to really understand the true status of every document, you would have to open it, look at it, read it, hit -- you know, a lot of man-hours.

Q. (BY MR. PERRY) Look --

A. And I didn't -- you know, that -- that wasn't my objective. It was just to get my arms around the scope of the problem.

Q. Well, let -- let me see if -- if I've got this part right. By the time you get to the end, some documents if they're not as-built, are going to have to be. Is that true?

MR. HUNTER: Objection, form.

A. Sure. There were some.

Q. (BY MR. PERRY) Yeah. And other documents, you have to figure out what to do with them, maybe they get archived. Maybe they get transferred to Operations. I -- I don't know what all the alternatives are.

But something has to be done to figure out what happens to each particular document and put it in the right pigeon hole. Is that fair?

A. Sure.

Q. And so, what you were finding is that one of the things that needed to happen was that the leads -- the lead engineers needed to be just going down the list and getting whatever needed to be done, done, with whatever documents were there?

A. Right.

Q. Okay. All right. Then Naseman continues on. Some key points on this. We aren't going to have everything that we would want if we were to do this whole project again, but we need to capture and organize what we have.

Q. Okay. And what about the vendor data?

A. Vendor data is an ongoing thing, certainly for what we had handed over to operations, that's all part of the GOC process. And so, I -- I didn't see that that was done, but in talking with the GOC folks, they had everything they needed.

And then, the knowledge management, we had had all the lessons capture sessions, and had done an initial scrub on the data that we gathered, but as I had left the project, it still hadn't been uploaded in to the database.

Q. What about closing out the documents and getting the ones that needed to be as-builted --

MR. HUNTER: Objection, form.

Q. (BY MR. PERRY) -- where did that fit in to this discussion?

A. Well, we talked about the overall document status. And this is the meeting where we got agreement to present the situation to the leads; and then after that, we set up -- you know, basically told everybody Tinikka's going to take this forward.

And she was going to get -- be meeting with them regularly to get status of their area and how they were progressing on closing out their documents.

Q. So, how did that business of closing out the

documents, how did that progress?

MR. HUNTER: Objection, form.

A. Well, we had -- had the meeting with the leads. And that -- everybody was on board with it, and they -- you know, after that, I was just getting updates from Tinikka. And, you know, she was having the meetings with them, and things were moving along.

Q. (BY MR. PERRY) Did you run in to any snags along the way?

A. I mean, I don't -- like what? Yeah.

Q. Well --

(Exhibit 114 marked)

Q. (BY MR. PERRY) Let me hand you Discovery Exhibit 114. And that's an e-mail from you to Andrew Gregg and Mike Garland. I'm sorry.

From you to Andrew Gregg, and you copied Mike Garland and Tinikka Curtis. And it's a proposed change to the document numbering guide.

And it starts out saying, Hi, Andy. We are struggling with the established document number scheme as defined in certain guide, copy attached. And then you go on to explain some certain problems.

And further down you say, As we try to close out individual projects, the current number scheme makes this task extremely difficult in that we do not

know, unless the document is opened and reviewed, whether it is for DC-1, SS-1, SS-2, or DC-3. And then you propose a change in the numbering scheme.

A. Right.

Q. Now --

A. This issue was also discussed in that meeting with Dirk and Bill Broman.

Q. Okay. So, this is -- this is kind of part of the whole closeout problem --

A. Right.

Q. -- as it relates to documents? Was this one of the impediments to getting the leads to close out their documents?

A. Not really. It was more of I saw this as an issue and wanted to come up with a solution for the longer term. I mean, it --

Q. There is a time later on, after you had left, where there ends up being a series of spreadsheets made. I think Tinikka said she made them. I think there were eight. And each one of them lists documents in a certain sector. There's sector numbers like 31, 32, 33, 34, 35, that sort of thing. And each spreadsheet has the name of a lead engineer that, I guess, goes with that sector.

A. Uh-huh.

Q. I mean, didn't the lead engineers each know what

documents they were responsible for?

MR. HUNTER: Objection, form.

A. Part of what was -- there was a little bit of QA work that needed to be done, where -- and we found some documents that weren't coded right. And so, there was a little bit of that. But in general you know what documents you're working with.

Q. (BY MR. PERRY) "QA" stands for quality assurance?

A. Assurance, yeah.

Q. Well, and of course, one of the things is -- what I understand -- tell me if I'm wrong -- what I understand from reading the document procedures is that as documents come in and get filed in the databases, there is supposed to be a quality assurance function that checks them out and makes sure they're -- they are coded correctly, and so forth?

A. Right.

Q. But apparently there was some that had slipped through the cracks?

A. Right.

Q. Now, who was in charge of that QA function?

A. Well, as -- as people will tell you, I mean, you know, that's -- like safety, it's everybody's job. You know, the lead is supposed to be doing it; the person who

checks out the number to them is supposed to be doing it.

You know, Tinikka's supposed to be doing it. The BP people on the asset side are supposed to be doing it. Supposed to be something everybody is -- should be looking out for.

Q. Now, is that a reference to the old saying that what is everybody's job is nobody's job?

MR. HUNTER: Objection, form.

A. Well, it's primarily with the lead, and doc-- and then document control.

Q. (BY MR. PERRY) The document control lead?

A. But first -- first and foremost, the engineer has to -- to do -- pick out the right document.

Q. Okay. Now, one of the things I never quite got clear -- and you may have said this before and I just missed it -- but who was the document control lead for DC-1 before DC-1 fell on to your plate?

MR. HUNTER: Objection, form.

A. Really, Technip. The Technip personnel.

Q. (BY MR. PERRY) And so, this was kind of something that -- that had been contracted out to somebody who's on a time and materials basis?

MR. HUNTER: Objection, form.

A. You know, the -- it's -- it's -- as you said, you know, the -- the project services and document control

e-mails to you, with copies to Mike Garland and Andy Gregg, a progress report on the document control. And she has worked up kind of a breakdown of the steps that need to be done to -- to move forward, right?

A. Well --

MR. HUNTER: Objection, form.

A. -- she's just trying to -- I took this as more kind of her thoughts about trying to -- you know, kind of a bit of what she's working on and then, also, some thoughts on the re-number scheme.

Q. (BY MR. PERRY) Okay. And so, this comes to you. And, then, you forward it on to Mike Garland and Andy Gregg with a question of, where are you on updating procedure. It's been a couple months and several meetings and there is no resolution.

And so, that -- the rest of this chain deals with the fact that you're trying to get a green light on the numbering scheme, but you're not getting it, right?

A. Right.

Q. And part of Gregg's concern is an issue about a $2 million estimated cost, and part of your position is that you're trying to avoid having the cost that high?

MR. HUNTER: Objection, form.

Q. (BY MR. PERRY) Did I misunderstand that?

A. What's the question, now?

Q. The thing that captures your position that I've highlighted and I'll read to you is: The $2 million cost was to change everything which we do not want to do.

I took that to mean that you were trying to keep the cost under $2 million, but you didn't specify how much. Is that fair?

A. No. What the -- kind of what was going on was to -- because I -- I mention there was a -- there was the one effort to re-number the drawings. We were going to have to go in and do an update anyway, let's go to this new number scheme. Okay. So, that -- that was kind of the -- the general thoughts that were going on.

But then there was more concerns were raised by Gregg that this -- going to this new number scheme would have an impact on future projects. And his thinking there was that future projects would use the same number scheme, which I don't know if that was a good assumption, but that was his.

So, he didn't want to move ahead with the number scheme, but then also there was a portion of this about just re-- again as -- since we're having to go in and make these updates anyway, use a more standard document title.

So that when you were going through the

system, you could tell right away, without having to open it, that it was a DC-1 document, or DC-3, or so on. And then there were these attribute fields that were also an option that we could use to help characterize the documents.

So, where we were headed was not to do the number scheme upgrade, because they felt it was going to interfere with too many other things; but we wanted to make the other changes. And so, you don't want to change things unless you have your procedure changed.

So, I'm pushing on them to modify the procedure that would allow us to do things a little different than what had been done in the past. And --

Q. You're saying part of the issue is, if you've got a procedure, you're supposed to follow it. Is that right so far?

MR. HUNTER: Objection, form.

A. Well, and we -- and we shouldn't -- we shouldn't be changing unless the procedure is updated.

Q. (BY MR. PERRY) Right. You shouldn't change what you're doing unless the procedure is changed so that it can be done in an orderly and documented way?

A. Uh-huh. Yes.

VIDEOGRAPHER: Got about two minutes left.

Q. (BY MR. PERRY) So, the -- the whole ball of wax

at this point on August the 15th, after you've been working on this thing since sometime in April, I guess -- or maybe before April -- is that there's not any consensus on changing the numbering scheme or changing the way in which the documents are organized?

MR. HUNTER: Objection, form.

Q. (BY MR. PERRY) Is that right?

A. I don't know about organ-- well, formatted.

Q. Formatted? Okay.

A. Okay. (Witness nodded head).

MR. PERRY: Okay. Well, on the point that at -- on this date in history there's not a consensus, why don't we take our break.

VIDEOGRAPHER: Off the record at 3:43 p.m., ending Tape 2.

(Recess from 3:43 p.m. to 3:56 p.m.)

VIDEOGRAPHER: On the record at 3:56 p.m., beginning Tape 3.

Q. (BY MR. PERRY) Mr. Duff, I think I could keep going through some e-mails on this subject, but the bottom line is that there did not ever end up being a consensus to do what you were recommending on the numbering situation or the docu-- document attribute situation. Is that right?

A. Well, ultimately, they did do the formatting, or

A. Right.

Q. Now, maybe I have -- I don't think I've asked you this. Why was it found necessary to change the procedure to where the documents would go straight to Tinikka instead of going to Mustang?

MR. HUNTER: Objection, form.

A. They were -- basically, that -- you know, that they had -- they were closing out Mustang. So, they were no longer in that role.

Q. (BY MR. PERRY) Okay. And Mustang hadn't gotten DC-1 in a position to close it out before Mustang was gone --

MR. HUNTER: Objection --

Q. (BY MR. PERRY) -- is what I'm hearing?

MR. HUNTER: Objection, form.

A. It was part of what we inherited.

Q. (BY MR. PERRY) Yeah. I guess the original plan had been that Mustang was going to handle those documents. At the appropriate time, they would handle the closeout or the documents would be ready to be closed out, and they would hand them over, something like that?

A. Right.

Q. But it had all fallen behind. And so, Mustang is about to be departed before the work you had expected them to do is finished?

A. Right.

Q. Okay. So, then, you go on to say the risk in turning over documents that are not complete are, number one, the operator would assume the drawings are accurate and up-to-date. This could lead to catastrophic operator errors due to their assuming the drawing is correct.

Turning over incomplete drawings to the operator for their use is a fundamental violation of basic document control, the integrity management standard, and process safety regulations.

Did I read that right?

A. Yes.

Q. Is all of that correct?

MR. HUNTER: Objection, form.

A. In my mind.

Q. (BY MR. PERRY) Well, let me ask you this: Did anybody send you back an e-mail -- you -- you sent this off to Naseman and Broman. Did anybody send you back an e-mail and say, Barry, this -- you're -- you're all wrong about this; it's okay to give people these incomplete drawings?

A. No, they didn't.

Q. Okay. And Paragraph No. 2 says, having the document control person turn over drawings that are not complete places the onus on her that they are the most

supposed to be sure that the documents were updated before the equipment was deployed to the field.

And what I gather, after we've talked -- I know you had a concern with that deployment language. What I'm gathering, after we've talked, is that the language that you would be more comfortable with is they have to be as-builted as soon as it is installed?

MR. HUNTER: Objection, form.

A. From a practical matter, yes.

Q. (BY MR. PERRY) Okay.

A. You -- you can't always exactly get it in the target box, you know. It will be off a little bit. And so, you -- that's just the way it works. And so, you have to wait until it gets finally in before you can truly say where it all is.

Q. Now, after you sent out your e-mail that we've been talking about, the August 15 e-mail --

A. Right.

Q. Well, let me ask you this: At the time you sent out that e-mail, did you know that you were going to be leaving to go to a new position?

MR. HUNTER: Objection, form.

A. The -- when I first hired on, I was -- that was part of the negotiation, that it was going to be a two- or three-year position, and then I would move on to either

Q. (BY MR. PERRY) Well, let me just look at that. I hadn't noticed that. And you were looking at --

A. The screen shot.

Q. The screen shot. I thought that said Rev A?

A. Yeah, and this says Rev B.

Q. Oh, that -- you -- oh, I see. Well, that's interesting. So, you might have had a somewhat different rev that you sent to him, and then somehow by the time it got to him, he had Rev A?

A. Yeah.

MR. HUNTER: Objection, form.

A. I don't --

Q. (BY MR. PERRY) I don't know how that would work, do you? Because usually doesn't B come after A?

A. Yeah.

Q. I don't know.

A. No, it's -- the -- the document says Rev A, which is what I have. And that's the only -- the original one is all I ever had or created. But then the attachment on the bottom says B. So, that's odd.

Q. Well, you never had a B, as far as you remember?

A. No. I still don't. No.

Q. Now, how did this -- how did this spreadsheet report -- closeout sector report, how did it come to be in existence? Tell us who made it, what -- what the reason

was.

MR. HUNTER: Objection, form.

A. Well, this goes back to the project closeout; and trying to get an understanding of what documents needed to be finalized. So, since the -- the documents were sitting in Technip's document control system, I got a just single, big flat file dump from their system.

And I organized it in to these workbooks to break it down by lead or sector, so that we would know who to work with to focus on getting the documents finalized and closed out.

Q. (BY MR. PERRY) Did you do all of that work yourself?

A. Yes.

Q. Okay. And so, this didn't actually come out of BP's Documentum, this came out of Technip's Documentum?

A. Correct.

Q. And explain to us why you went to Technip to get a dump of theirs, rather than whatever was in the BP Documentum?

A. Well, again, Technip was charged with developing and assembling all subsea related documentation, including creating the drawings and P&IDs and such. So, they were to take them through finalization in their system, then they were going to go to Mustang, and then go to BP. And

then, you know, ultimately Mustang was cut out of it.

So, at the point in time I got involved with this, Mustang was cut out of it. So, it -- you know, everything was still in Technip's system. And so, we used that as a starting point.

But it's a snapshot in time. It only tells you what the status was on that day. Doesn't tell you what backlog Technip may have been working on that they hadn't updated their database yet. But it -- it was a place to start.

Q. One of the things you just said, let me get clear about, it wasn't what I had realized before. What I'm hearing you say just now is that Technip was not supposed to forward the documents in to the BP Documentum until they were finalized?

A. Correct.

Q. So that the only documents that BP was supposed to have in its Documentum would be documents that already had been finalized?

A. Correct.

Q. So, it wouldn't actually be possible to use BP's Documentum to get a status of what remained --

A. Right.

Q. -- to be finalized?

A. And that was -- was my focus, what remained.

MR. HUNTER: Objection, form.

A. No, I don't recall that.

Q. (BY MR. PERRY) Did you get interviewed by BOEMRE when they did their investigation?

A. By who?

Q. BOEMRE.

A. Oh, yes.

Q. And sometimes when people get interviewed by an agency like that, they will give them a written statement. Did you give a written statement?

A. No.

Q. So, you do not have a copy, in any fashion, of what you told them?

A. No.

Q. In the report that they wrote, they have a sentence that says, BP decided that it was unnecessary to update drawings with an as-built stamp or label if the drawing had not been revised from earlier versions, e.g., issued for design, issued for construction, et cetera.

I gather that you certainly never told them that?

MR. HUNTER: Objection, form.

A. No.

Q. (BY MR. PERRY) And you didn't know of any such a -- such decision, right?

A. (Witness shaking head).

Q. Nobody --

A. No.

Q. Nobody ever told you that they had made a decision like that?

A. No. I don't recall.

MR. PERRY: That's all. Thank you very much.

MR. HUNTER: Okay.

EXAMINATION

BY MR. HUNTER (5:48):

Q. Mr. Duff, I just have a few questions. Earlier on this afternoon, you made some statements about regulations requiring as-builts for subsea. Do you recall that?

A. Yes.

Q. Okay. What type of as-built were you -- were you referring to?

A. For permitting, to update the permitting plats.

Q. Okay. Which -- which -- what -- what type of permitting?

A. For the pipelines, umbilicals, right-of-way.

Q. Okay. Was -- were -- was the as-built drawings or the as-builts that you referred to for subsea, are those actually sort of configurations of the components themselves? As-built drawings of the components

BARRY DUFF, having read the foregoing deposition and hereby affix my signature that same is true and correct, except as noted above.

Barry C. Duff

BARRY DUFF

THE STATE OF Texas)

COUNTY OF Harris)

Before me, BARRY C. DUFF, on this day personally appeared BARRY DUFF, known to me (or proved to me under oath or through _____ _____) (description of identity card or other document) to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that they executed the same for the purposes and consideration therein expressed.

Given under my hand and seal of office this 26 day of SEPTEMBER, 2011.

Catherine A Daniels

NOTARY PUBLIC IN AND FOR THE STATE OF Texas

CATHERINE A. DANIELS
MY COMMISSION EXPIRES
March 4, 2015

IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF TEXAS
HOUSTON DIVISION

UNITED STATES OF AMERICA EX REL. KENNETH W. ABBOTT; KENNETH W. ABBOTT, INDIVIDUALLY; AND FOOD & WATER WATCH, INC., PLAINTIFFS	)	CIVIL ACTION NO.: 4:09-CV-01193
VS.	)	JURY DEMANDED
BP EXPLORATION AND PRODUCTION INC., ET AL., DEFENDANTS	)	

REPORTER'S CERTIFICATION
ORAL AND VIDEOTAPED DEPOSITION OF BARRY DUFF
SEPTEMBER 12, 2011

I, Tammy S. Brown, Certified Shorthand Reporter in and for the State of Texas, hereby certify to the following:

That the witness, BARRY DUFF, was duly sworn by the officer and that the transcript of the oral deposition is a true record of the testimony given by the witness;

That the deposition transcript was submitted on September 16, 2011 to the witness or to the attorney for the witness for examination, signature and return to me by October 16, 2011;

That the amount of time used by each party at the deposition is as follows:

Mr. David L. Perry - 03:40

Mr. Christopher V. Goodpastor - 00:00

Mr. Jonathan A. Hunter - 00:05

Ms. Anne M. Rodgers - 00:00

That pursuant to information given to the deposition officer at the time said testimony was taken, the following includes counsel for all parties of record:

Mr. David L. Perry appearing for Plaintiff(s);

Mr. Christopher V. Goodpastor appearing for Plaintiff(s);

Mr. Jonathan A. Hunter appearing for the Defendant(s) BP P.L.C., BP America, Inc., BP Exploration & Production, Inc., and BP Products North America, Inc.;

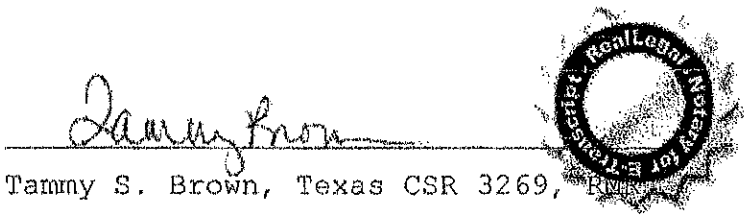
Ms. Anne M. Rodgers appearing for the Defendant(s) BP P.L.C., BP America, Inc., BP Exploration & Production, Inc., and BP Products North America, Inc.;

That a copy of this certificate was served on all parties shown herein.

I further certify that I am neither counsel for, related to, nor employed by any of the parties or attorneys in the action in which this proceeding was taken, and further that I am not financially or otherwise interested in the outcome of the action.

Further certification requirements pursuant to the Rules will be certified to after they have occurred.

Certified to by me this 14th day of September, 2011.



Tammy S. Brown, Texas CSR 3269, RMR
Expiration Date: 12/31/11
Worldwide Court Reporters, Inc.
Firm Registration No. 223
3000 Weslayan, Suite 235
Houston, Texas 77027
800.745.1101

FURTHER CERTIFICATION PURSUANT TO THE RULES

Signature pages

The original deposition (was) was not returned to the deposition officer on October 7, 2011;

If returned, the attached Changes and Signature page contains any changes and the reasons therefor;

If returned, the original deposition was delivered to Mr. ~~David L. Perry~~ Custodial Attorney; (Ann's Quadpacker)

That a copy of this certificate was served on all parties shown herein.

Certified to by me this 20th day of October, 2011.

Tammy Brown

Tammy S. Brown, Texas CSR 3269, RMR
Expiration Date: 12/31/11
Worldwide Court Reporters, Inc.
Firm Registration No. 223
3000 Weslayan, Suite 235
Houston, Texas 77027
800.745.2009

ATTACHMENT A

IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF TEXAS
HOUSTON DIVISION

UNITED STATES OF AMERICA EX REL. KENNETH W. ABBOTT; KENNETH W. ABBOTT, INDIVIDUALLY; AND FOOD & WATER WA TCH, INC.;	§	
Plaintiffs,	§	CIVIL ACTION NO. 4:09-CV-01193
v.	§	JURY DEMANDED
BP EXPLORATION AND PRODUCTION INC., ET AL.;	§	
Defendants.	§	

DECLARATION OF MARY WHITTLE

I, Mary Whittle, pursuant to the provisions of 28 U.S.C. § 1746, declare:

1. I am an attorney at law licensed to practice before the court of the State of Texas and the District of Columbia. I am counsel for Plaintiffs United States of America *ex rel.* Kenneth W. Abbott, Kenneth W. Abbott, individually, and Food and Water Watch, Inc. (collectively "Plaintiffs") in this matter. I am fully familiar with the facts stated below and submit this declaration and the attached exhibits in support of Plaintiffs' Motion for Summary Judgment. All of the statements of fact in this Declaration are true and correct according to my personal knowledge.

2. Attached hereto as Exhibit 1 is a true and correct copy of Bates Numbered Document BPEP_ABB_01597639 and 01597642, Atlantis Field, Supplemental Conservation Information Document (March 2009).

3. Attached hereto as Exhibit 2 is a true and correct copy of Bates Numbered Document BPEP_ABB_00086577, 00086583 and 00086590, Atlantis Project – Application to Design, Fabricate and Install a Platform (Sept. 2002) ("Platform Application").

4. Attached hereto as Exhibit 3 is a true and correct copy of Bates Numbered Document FWW0008511/512, Lease OCS-G 15606.

5. Attached hereto as Exhibit 4 is a true and correct copy of pages from the deposition of B. Domangue dated November 15, 2011.

6. Attached hereto as Exhibit 5 is a true and correct copy of Bates Numbered Document BPEP_ABB_00094892, the Swift Technical Services LLC–Contract for Services.

7. Attached hereto as Exhibit 6 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03455080, Organization Chart Showing Abbott's position.

8. Attached hereto as Exhibit 7 is a true and correct copy of the Bates Numbered Document ABB0015861 and 0015894, April 24, 2009 Letter to U.S. DOJ with attached Plaintiffs' Original Complaint.

9. Attached hereto as Exhibit 8 is a true and correct copy of pages from the Deposition of K. Abbott dated December 16, 2011.

10. Attached hereto as Exhibit 9 is a true and correct copy of the Bates Numbered Document BPEP_ABB_01524673, email from B. Duff to B. Naseman and W. Broman dated August 15, 2008.

11. Attached hereto as Exhibit 10 is a true and correct copy of pages from the Deposition of B. Duff dated September 12, 2011.

12. Attached hereto as Exhibit 11 is a true and correct copy of the Bates Numbered Document BPEP_ABB_01524667/4668, email from B. Duff to A. Gregg and Bill E. Naseman dated August 15, 2008.

13. Attached hereto as Exhibit 12 is a true and correct copy of pages from the Deposition of T. Curtis dated September 12, 2011.

14. Attached hereto as Exhibit 13 is a true and correct copy of the Bates Numbered Document BPEP_ABB_01521407/1409.

15. Attached hereto as Exhibit 14 is a true and correct copy of the Bates Numbered Document MUSTANG ENG 000205 and 000210, Atlantis Records Management Project Execution Plan, Document number 1440-10-AD-PR-0005.

16. Attached hereto as Exhibit 15 is a true and correct copy of pages from the Deposition of W. Naseman dated November 30, 2011.

17. Attached hereto as Exhibit 16 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03463083, 03463088, 03453108 and 03453109, BP Ombudsman Employee Concerns Program, Confidential Investigation Report, Case No: 2009-005.

18. Attached hereto as Exhibit 17 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00115572/5574, letter from Rep. Grijalva (U.S. Congress) to E. Birnbaum (MMS) dated February 24, 2010.

19. Attached hereto as Exhibit 18 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00115575, letter from MMS to Rep. Grijalva (House of Rep) dated March 26, 2010.

20. Attached hereto as Exhibit 19 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00082829/2830, letter from M. Saucier (MMS) to S. Todd (BP) dated July 21, 2010.

21. Attached hereto as Exhibit 20 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00115564/5566, letter from S. Todd (BP) to M. Saucier (MMS) dated Aug. 9, 2010.

22. Attached hereto as Exhibit 21 is a true and correct copy of pages from the Deposition of D. Sustala dated September 19, 2011.

23. Attached hereto as Exhibit 22 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00086984, letter from T. Laurendine for D. Howard, MMS, to D. Sustala, BP dated December 12, 2002.

24. Attached hereto as Exhibit 23 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00086986/6989, letter from D. Sustala, BP, to D. Howard, MMS, dated January 27, 2003.

25. Attached hereto as Exhibit 24 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00087025, email from T. Laurendine for D. Howard, MMS, to D. Sustala, dated February 25, 2003.

26. Attached hereto as Exhibit 25 is a true and correct copy of the Bates Numbered Document BPEP_ABB_04076454/6455, 04076462 and 04076464, DSME Contract dated Sept. 1, 2001, § 1.3 "Engineering and Design."

27. Attached hereto as Exhibit 26 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00087049/7050, email from T. Laurendine, MMS, to D. Sustala, BP dated January 16, 2005.

28. Attached hereto as Exhibit 27 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00087685, letter from A. Shah for Lars T. Herbst, MMS, to D. Sustala, BP, dated January 16, 2007.

29. Attached hereto as Exhibit 28 is a true and correct copy of pages from the Deposition of D. Sustala dated May 10, 2011.

30. Attached hereto as Exhibit 29 is a true and correct copy of pages from the Deposition of K. DeJohn dated September 14, 2011.

31. Attached hereto as Exhibit 30 is a true and correct copy of pages from the Deposition of S. Todd dated December 5, 2011.

32. Attached hereto as Exhibit 31 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00111486, 00111493 and 00111525, Atlantis Project Floating Systems Team Project Execution Plan.

33. Attached hereto as Exhibit 32 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00112443, email from D. Sustala, BP, and L. Pekel, ABS, dated November 26, 2002 (1:56PM).

34. Attached hereto as Exhibit 33 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00112441/2442, email from D. Sustala to L. Pekel dated November 26, 2002 (4:28PM).

35. Attached hereto as Exhibit 34 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00112440, email from D. Sustala to L. Pekel dated November 26, 2002 (4:38PM).

36. Attached hereto as Exhibit 35 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00112401/2402, email from L. Pekel to D. Sustala dated December 6, 2002 (11:53AM).

37. Attached hereto as Exhibit 36 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00112426/2427, email exchange between P. Ganguly, Millennium Technical Consultants, and D. Sustala, BP, dated November 29, 2002.

38. Attached hereto as Exhibit 37 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00112616, email from D. Sustala, BP, to P. Ganguly, Millennium Technical Consultants dated October 24, 2002.

39. Attached hereto as Exhibit 38 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00112450/2452, email from S. Kinnaman to D. Sustala dated November 22, 2002.

40. Attached hereto as Exhibit 39 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00112629/2630, email from B. Thurmond to D. Sustala dated October 23, 2002.

41. Attached hereto as Exhibit 40 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00112524/2526, email from D. Sustala to K. Jansson, GVA, dated October 24, 2002.

42. Attached hereto as Exhibit 41 is a true and correct copy of pages from the Deposition of R. Peloubet dated September 9, 2011.

43. Attached hereto as Exhibit 42 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00112627, email from D. Sustala to J. Faulker dated October 24, 2002.

44. Attached hereto as Exhibit 43 is a true and correct copy of the Bates Number Document BPEP_ABB_00112508, email from R. Phillips to D. Sustala dated October 25, 2002.

45. Attached hereto as Exhibit 44 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00112453/2454, email from D. Sustala dated November 21, 2002.

46. Attached hereto as Exhibit 45 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00110497/0499, email from D. Sustala (BP) to S. Kinnaman (Mustang) dated March 24, 2004.

47. Attached hereto as Exhibit 46 is a true and correct copy of pages from the Deposition of F. Ragan taken September 8, 2011.

48. Attached hereto as Exhibit 47 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00110014/0015, email from F. Ragan to K. DeJohn, L. Osborn and D. Sustala dated November 12, 2005.

49. Attached hereto as Exhibit 48 is a true and correct copy of the pages from the Deposition of G. Malone taken August 30, 2011.

50. Attached hereto as Exhibit 49 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03493064, email from C. Ward to K. Smith (Hull arrives in Corpus Christi from Korea on May 25, 2005; integration ran from May 2005 through August 2006) dated August 30, 2010.

51. Attached hereto as Exhibit 50 is a true and correct copy of pages from the Deposition of J. Upchurch taken October 4, 2011.

52. Attached hereto as Exhibit 51 is a true and correct copy of pages from the Deposition of R. Berger taken September 15, 2011.

53. Attached hereto as Exhibit 52 is a true and correct copy of the Bates Numbered Document BPEP_ABB_01524687/4688, email from B. Naseman to A. Taylor attaching FST Handover Schedule dated March 5, 2008.

54. Attached hereto as Exhibit 53 is a true and correct copy of pages from the Deposition of L. Osborn taken September 21, 2011.

55. Attached hereto as Exhibit 54 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00115909 and BPEP_ABB_00115917, Specification for Data and Information Handover from Projects into Operations, 1400-85-IM-SP-8700.

56. Attached hereto as Exhibit 55 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03500136 and BPEP_ABB_03500143, Atlantis Engineering Workflow Process.

57. Attached hereto as Exhibit 56 is a true and correct copy of the Bates Numbered Document BPEP_ABB_01631097, BPEP_ABB_01631100 and BPEP_ABB_01631106, Document Control Procedure, ssproj-10-PCPR-000001.

58. Attached hereto as Exhibit 57 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03505121 and BPEP_ABB_03505126, Contractor Document Control Procedure, 1400-10-AD-PR-0219.

59. Attached hereto as Exhibit 58 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03505155 and BPEP_ABB_03505159/5160, MEI Document Control Procedure, 1400-10-AD-PR-0214.

60. Attached hereto as Exhibit 59 is a true and correct copy of the Bates Numbered Document BPEP_ABB_01453338 and BPEP_ABB_01453359/3374, Project Orientation and Procedures Manual, 1440-21-POPM-PR-0001.

61. Attached hereto as Exhibit 60 is a true and correct copy of the Bates Numbered Document MUSTANG ENG 000001, MUSTANG ENG 000072 and MUSTANG ENG 000090, Topsides Design Engineering and Project Services Contract, Ex. A "Scope of Work," Section 2.3.4.1.

62. Attached hereto as Exhibit 61 is a true and correct copy of the Bates Numbered Document T-USA 000001 and T-USA 000056, Well Systems Integrations and Design Services Engineering Contract, Ex. A "Scope of Work," Section 11.6.

63. Attached hereto as Exhibit 62 is a true and correct copy of pages from the Deposition of R. Malone taken September 13, 2011.

64. Attached hereto as Exhibit 63 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03534372/4379, Finance Memo.

65. Attached hereto as Exhibit 64 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03534380, BPEP_ABB_03534382, BPEP_ABB_03534384, BPEP_ABB_03534386, BPEP_ABB_03534388, BPEP_ABB_03534390 and BPEP_ABB_03534392, GoM Atlantis South Supplementary FM and Atlantis Phase 2 Strategy.

66. Attached hereto as Exhibit 65 is a true and correct copy of the Atlantis South Supplement Cost Estimate Summary previously marked as Discovery Exhibit No. 347 in this case.

67. Attached hereto as Exhibit 66 is a true and correct copy of pages from the Deposition of W. Naseman taken November 30, 2011.

68. Attached hereto as Exhibit 67 is a true and correct copy of Bates Numbered Document BPEP_ABB_00091459, email from B. Naseman to W. Broman and B. Duff dated April 25, 2008.

69. Attached hereto as Exhibit 68 is a true and correct copy of the Bates Numbered Document BPEP_ABB_01519199/9200, email from B. Duff to A. Gregg, M. Garland and T. Curtis dated May 6, 2008.

70. Attached hereto as Exhibit 69 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00089380, email exchange from G. Imm to R. Berger dated May 13, 2008.

71. Attached hereto as Exhibit 70 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00115759/5760, email from R. Peloubet to S. Todd dated April 20, 2010.

72. Attached hereto as Exhibit 71 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03482184/2185, email from N. Oza (BP) to S. Berg (Technip) dated July 22, 2008.

73. Attached hereto as Exhibit 72 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03505962/5963, email from L. Osborn (Mustang) to M. Garland (BP) dated May 12, 2009.

74. Attached hereto as Exhibit 73 is a true and correct copy of pages from the Deposition of S. Todd taken May 9, 2011.

75. Attached hereto as Exhibit 74 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00115609 and BPEP_ABB_00115620, email from S. Todd (BP) to B. Domangue (MMS), dated July 3, 2010 (with Power Point presentation attached stating that BP followed its Specification for Handover).

76. Attached hereto as Exhibit 75 is a true and correct copy of the Bates Numbered Document BPEP_ABB_01622474. Email from B. Domangue to D. Sustala dated August 20, 2010.

77. Attached hereto as Exhibit 76 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00082845/2846, email from S. Todd (BP) to B. Domangue dated August 25, 2010.

78. Attached hereto as Exhibit 77 is a true and correct copy of the Title page and pages 7-8 of API RP 14C (Sec. 3.2 and 3.4(e)).

79. Attached hereto as Exhibit 78 is a true and correct copy of Bates Numbered Document FWW0018028/18029, email from W. Hauser to Z. Corrigan dated February 17, 2010.

80. Attached hereto as Exhibit 79 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00085724/5727, letter from B. Domangue, MMS, to D. Sustala, BP, dated May 3, 2007.

81. Attached hereto as Exhibit 80 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00085234, Professional Engineering Statement (Item 5).

82. Attached hereto as Exhibit 81 is a true and correct copy of the Bates Numbered Document BPEP_ABB_01598219/8220, letter from D. Sustala, BP, to Michael Saucier dated February 23, 2005.

83. Attached hereto as Exhibit 82 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00084533/4534, letter from D. Sustala to M. Saucier dated February 25, 2005.

84. Attached hereto as Exhibit 83 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00084932/4933, letter from D. Sustala to M. Saucier dated August 1, 2005.

85. Attached hereto as Exhibit 84 is a true and correct copy of *The Professional Engineering* (Nat'l So. Prof. Eng. July 2007).

86. Attached hereto as Exhibit 85 is a true and correct copy of Bates Numbered Document BPEP_ABB_00082852/2854, email from B. Domangue (MMS) to S. Todd (BP) dated August 31, 2010.

87. Attached hereto as Exhibit 86 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00110518/0519, email from R. Phillips to D. Sustala, J. Hart and L. Osborn dated January 29, 2004.

88. Attached hereto as Exhibit 87 is a true and correct copy of pages from BP Native File Bates Numbered Document BPEP_ABB_00854373 (Title Page and Page 29 of 35), System Certification Package, 1440-35-SB-SP-3033_ATS_SIC_Rev0.doc (contained within TS Subsea Control System 956, Document Number 1440-20-CM-PR-956-8001).

89. Attached hereto as Exhibit 88 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00110497/0499, email from D. Sustala (BP) to S. Kinnaman (Mustang) dated March 24, 2004.

90. Attached hereto as Exhibit 89 is a true and correct copy of the Bates Numbered Document BPEP_ABB_05211191/1193, email from D. Sustala (BP) to A. Laplante (BP) dated March 25, 2004.

91. Attached hereto as Exhibit 90 is a true and correct copy of the Bates Numbered Document T-USA 001407 and T-USA 001419, BP Well Integration and Design Engineering Atlantis Sealing Plan § 3.3.

92. Attached hereto as Exhibit 91 is a true and correct copy of pages from the deposition of D. Elmer dated September 14, 2011.

93. Attached hereto as Exhibit 92 is a true and correct copy of pages from the Deposition of G. Stevick taken December 20, 2011.

94. Attached hereto as Exhibit 93 is a true and correct copy of Bates Numbered Document FWW0008573 and FWW0008620, Site-Specific Environmental Assessment (SEA) No. N-7646 at E-2 (April 17, 2003).

95. Attached hereto as Exhibit 94 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03534711 and BPEP_ABB_03534784, DOCD, Environmental Impact Statement § 8.3.

96. Attached hereto as Exhibit 95 is a true and correct copy of pages from the Deposition of R. Pierce taken December 1, 2011.

97. Attached hereto as Exhibit 96 is a true and correct copy of the Bates Numbered Document BPEP_ABB_04147184 and BPEP_ABB_04147199, Gulf of Mexico SPU-Atlantis, S&O Audit, 30 November 2009 to 11 December 2009 – Entity Verifiable Findings, Audit 0935.

98. Attached hereto as Exhibit 97 is a true and correct copy of BPEP_ABB_04147214 and BPEP_ABB_04147241, Audit Report, Safety & Operations Audit, Final Report 13 January 2010.

99. Attached hereto as Exhibit 98 is a true and correct copy of the Bates Numbered Document BPEP_ABB_02828782/8789 and BPEP_ABB_02828796, Worley Parsons Atlantis PSV-41003 Sizing Check Calculation, August 19, 2010.

100. Attached hereto as Exhibit 99 is a true and correct copy of the Bates Numbered Document BPEP_ABB_04135740, Root Cause Failure Analysis Report – Gas Turbine Generator ZAN-5000 Shutdown.

101. Attached hereto as Exhibit 100 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03514575, email from F. Ragan to W. Dean (Technip) dated February 11, 2008.

102. Attached hereto as Exhibit 101 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03502155/2156, email from S. Maxwell to R. Oneta dated September 22, 2007.

103. Attached hereto as Exhibit 102 is a true and correct copy of pages from the Deposition of S. Cotton taken December 14, 2011.

104. Attached hereto as Exhibit 103 is a true and correct copy of BP Native File Bates Numbered Document BPEP_ABB_02832882, Piping and Instrument Diagram, Pipeline Pumps (Drawing No. 1440-20-PI-DG-4389).

105. Attached hereto as Exhibit 104 is a true and correct copy of Bates Numbered Document BPEP_ABB_03579591/9592, email from R. Berger to B. Broman dated August 26, 2008.

106. Attached hereto as Exhibit 105 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03359747/9757, Safety Shutdown Logic Drawings, BP Document Numbers 1440-35-SB-DG-3021 through 3030.

107. Attached hereto as Exhibit 106 is a true and correct copy of pages from the Deposition of K. Angel taken December 14, 2011.

108. Attached hereto as Exhibit 107 is a true and correct copy of List of BP Controls Malfunctions Documents and Listed Documentation.

109. Attached hereto as Exhibit 108 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03512831, email from B. Young to N. Oza and R. Berger dated January 3, 2008.

110. Attached hereto as Exhibit 109 is a true and correct copy of the Bates Numbered Document BPEP_ABB_04125309, email from N. Oza re: FW Subsea vavles (sic) opening without requested, dated January 7, 2008.

111. Attached hereto as Exhibit 110 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03559672/9673, email from W. Broman to N. Oza dated January 7, 2008.

112. Attached hereto as Exhibit 111 is a true and correct copy of pages from the Deposition of R. Berger taken November 2, 2011.

113. Attached hereto as Exhibit 112 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03626944/6945, email from J. Little re: DC122 Shut in, dated August 10, 2008.

114. Attached hereto as Exhibit 113 is a true and correct copy of the Bates Numbered Document BPEP_ABB_02895422/5423, Functional Design Specification for the Master Control Station, Subsea Control Unit, BP Doc. No. 1440-35-SB-SP-0030.

115. Attached hereto as Exhibit 114 is a true and correct copy of the Bates Numbered Document BPEP_ABB_02408632, Subsea Control System Cause and Effects, BP Doc. No. 1440-35-SB-RP-0114.

116. Attached hereto as Exhibit 115 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03244795, Master Control Station Site Integration Test, BP Doc. No. 1440-35-SB-PR-0130.

117. Attached hereto as Exhibit 116 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00087921 (and internal pages 10-19 through 10-22), Preliminary Deepwater Operations Plan, dated June 21, 2004.

118. Attached hereto as Exhibit 117 is a true and correct copy of pages from the Deposition of L. Holzenthal taken December 13, 2011.

119. Attached hereto as Exhibit 118 is a true and correct copy of the Bates Numbered Document BPEP_ABB_04135705/5709, email from S. Cotton to K. DeJohn and F. Ragan re: FW: Atlantis update, dated August 5, 2008.

120. Attached hereto as Exhibit 119 is a true and correct copy of the Bates Numbered Document BPEP_ABB_04135730, email from S. Cotton to Waterhouse re: Subsea Comms MOC-08-218 Hazard Review, dated October 28, 2008.

121. Attached hereto as Exhibit 120 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03498616/8618, email from R. Peloubet re: Operations Managers Meeting and Higher dated January 22, 2007.

122. Attached hereto as Exhibit 121 is a true and correct copy of pages from the Deposition of W. Castell dated June 22, 2011.

123. Attached hereto as Exhibit 122 is a true and correct copy of pages from the Deposition of G. Cowlam dated June 7, 2011.

124. Attached hereto as Exhibit 123 is a true and correct copy of pages from the Deposition of S. Newman dated September 30, 2011.

125. Attached hereto as Exhibit 124 is a true and correct copy of pages from the Deposition of P. Campbell dated July 12, 2011.

126. Attached hereto as Exhibit 125 is a true and correct copy of pages from the Deposition of R. Turlak dated September 28, 2011.

I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct.

Executed this 4th day of April 2012, in Washington, D.C.

/s/ Mary Whittle
Mary Whittle

EXHIBIT 11

From: Duff, Barry C
Sent: Friday, August 15, 2008 11:08:47 AM
To: Gregg, Andrew (Gregg Valdes & Assoc); Garland, Mike L
CC: Naseman, Bill E
Subject: RE: Progress Report - ATL Subsea Document Control

Attachments: Document Number Guidelines 1440-AD-PR-0212 and Other Procedure and Practice Issues.doc; Proposed Change to Document Numbering Guide.doc

Greg,

See attached e-mails to you back in May and June. I think I'm very clear that this change is needed as soon as possible. It has also been re-iterated in the meetings. The $2M cost was to change everything, which we do not want to do, but we need to fix the system before $2M becomes $10M.

Document Number Guidelines 1440-AD-PR-0212 and Other Procedure and Practice Issues.doc (6 kB)

Proposed Change to Document Numbering Guide.doc (7 kB)

Discovery Ex. No. **116**
Cause No.
4:09-cv-01193
Abbott v. BP

From: Gregg, Andrew (Gregg Valdes & Assoc)
Sent: Thursday, August 14, 2008 5:21 PM
To: Duff, Barry C; Garland, Mike L
Cc: Naseman, Bill E
Subject: RE: Progress Report - ATL Subsea Document Control

Barry,

When we met with the Atlantis team on July 1st, we agreed to review and socialize your draft proposal of the procedure. To date we have disucussed it (in its hard copy form) with Thunder Horse, who have pointed out some discrepancies with what they are doing, and with Dave Turner in Subsea Ops.

Our impression from your presentation was that the Project had not bought into this for existing work, only future work. We also discussed that, if the cost implications were excessive (your estimate was $2M?), we could provide an alterative to re-numbering by using attributes for the documents, which is something that really would have to happen anyway before anything could be re-numbered.

Mike Garland met with Bill Naseman today and Bill has requested further socialization with the next suite of Projects. Bill does not wish to change,
1. a shared program document which would now be specific to Atlantis and 2. to create a one off approach.

Bill has requested that Mike meets with the other Subsea teams next week to discuss further.

Whatever the eventual plan we need to figure out the most cost effective way to proceed, attributes versus re-numbering.

As an aside, Dave Turner reminded me that the critical issue during hurricane season is to have easily available, a set of documents for the installed SS1 equipment.

Regards
Andy

From: Duff, Barry C
Sent: Wednesday, August 13, 2008 3:03 PM
To: Garland, Mike L; Gregg, Andrew (Gregg Valdes & Assoc)
Subject: RE: Progress Report - ATL Subsea Document Control

Mike/Andy,

Redacted

Where are you on updating the procedure? Its been a couple of months and several meetings on this and there is still no resolution.

From: Curtis, Tinikka (NES)
Sent: Tuesday, August 12, 2008 11:05 AM
To: Duff, Barry C
Cc: Garland, Mike L; Gregg, Andrew (Gregg Valdes & Assoc)
Subject: Progress Report - ATL Subsea Document Control

Good Morning,

I thought it would be a good idea for me to send a quick progress report of where we are on things with Atlantis Subsea Document Control.

There are (2) main action items:

Document Numbering

- **Format of the Technical document number**
1. **Sector recommendations**
2. **Incorporating the changes within Documentum – Folder structure/ attributes**
3. **Process for changing existing document numbers to the new document number format**

I feel the subjects listed above breakdown the steps we need to take before we can truly implement a new document numbering scheme.
I am working on taking all existing notes, spreadsheets, etc. and merging them into 4 spreadsheets by the subject listed above.
Each subject will have a separate spreadsheet, (sheet 1 - will draw out the details) to get a visual and (sheet 2 will list all the issues in a line item format).

I will be sending an email with the four spreadsheets attached for your review/comment.
I will then schedule a meeting so that we can all meet to discuss a plan moving forward.

Daily Activities:

- **Loading documents incoming documents**
1. **PI &D request from Ops**
2. **Comparing Technip system to Documentum**
3. **Issues Log – list all the documents that leads need to take action on**

The items listed above are more of the day to day activities that I execute on a regular base with the exception of focusing on P&ID's.
However I am trying a process that will allow me to work on all 3 at one time.
I am taking Technip master registry (with all revs listed) by sector merging it with the Documentum registry by sector.
The Technip attributes are in one color and documentum attributes are in another color.

Once I put the combine list in order by document number:

I can see just how much data is missing.
I can bold the P&IDs' to check the revision before sending the list to Kristy
I can see all attribute history for existing documents before loading new revisions (especially if the documents that are candidate for re-numbering or issues).
I will have a print-out to use for identifying Drill Centers, and phases when working with the leads.

Because I do not want Operations waiting, I will send Kristy a list of P&ID's by sector as soon as I complete that section. Then I will request all missing documents from Technip by the sector and load them, along with the new documents coming in.
I will send the sector reports out as I complete them to keep all informed.

Thanks,

Redacted

EXHIBIT 12

IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF TEXAS
HOUSTON DIVISION

UNITED STATES OF AMERICA EX REL. KENNETH W. ABBOTT; KENNETH W. ABBOTT, INDIVIDUALLY; AND FOOD & WATER WATCH, INC., PLAINTIFFS	)	CIVIL ACTION NO.: 4:09-CV-01193
VS.	)	JURY DEMANDED
BP EXPLORATION AND PRODUCTION INC., ET AL., DEFENDANTS	)	

****

ORAL AND VIDEOTAPED DEPOSITION OF TINIKKA CURTIS
SEPTEMBER 12, 2011
VOLUME 1

****

ORAL AND VIDEOTAPED DEPOSITION of TINIKKA CURTIS, produced as a witness at the instance of the Plaintiff, and duly sworn, was taken in the above-styled and numbered cause on September 12, 2011, from 9:10 a.m. to 11:43 a.m., before Tammy S. Brown, CSR in and for the State of Texas, reported by machine shorthand, at the offices of Fulbright & Jaworski, LLP, 1301 McKinney Street, Suite 5100, Houston, Texas, pursuant to the Federal Rules of Civil Procedure and the provisions stated on the record.

Q. Okay. So, you had to make sure it wasn't too big?

A. Correct.

Q. And you had to make sure that the title matched and the revision number matched?

A. Correct.

Q. Anything else that you had to make sure of before you uploaded the file?

A. No.

Q. Okay. And then when you -- to actually upload the file, did you have to decide where it was going to go? Or did that happen automatically?

A. The document number is supposed to decide where it goes. That's the way it was set up at that time.

Q. Okay. So, do you, like, click on a file, and then you have a certain other button, and you always click on the same button and it uploads?

A. Something like that.

Q. Okay. Explain it to me.

A. Well, when you put in the document into the system, it has a document number. That number would have a sector. That sector would tell you what area the document goes to. And that's how it works.

Q. Now, by sector -- I believe I have been told that Sector 30 was subsea?

A. Correct.

Q. And that's -- that's the sector number that you're talking about?

A. Correct.

Q. I know if I'm going to move a document around in my little computer, if I want it to go in a certain place -- of course, I don't have Documentum -- I might have to open up one folder, and then open up another folder, and then open up another folder, and another folder, and kind of remember where I'm trying to get to.

A. Okay.

Q. Did you have to do that? Or did the computer just take the sector number and put it where it needed to go?

A. The computer takes it when you're uploading, and puts it where it needs to go, depending on the sector.

Q. Okay. So, you didn't have to keypunch in the number, or the sector, or -- was there any information that you had to keypunch in to upload a document?

A. The number. You still had to put in the number.

Q. The -- the document number?

A. Correct.

Q. Okay. All right. And then, would you be sure to double-check the number against the transmittal before you uploaded it?

A. Correct.

Q. Okay. What if you got the document number wrong? Did that ever happen? You know, make a typing error and it would end up being wrong?

A. I don't remember, but that can easily happen, but I don't recall that.

Q. The -- what I guess I'm asking you is, if a person made a typing error on the number, would it go ahead and take it and it would just go out in to the ether somewhere? Or would it kind of kick it back to you in some way?

MR. HUNTER: Objection, form.

Q. (BY MR. PERRY) Or --

MR. HUNTER: You can answer.

Q. (BY MR. PERRY) Or did that ever happen, that you can remember?

A. Let me make sure I understand, because there's two different scenarios here that I'm getting out of what you're asking.

Q. Okay.

A. One would be, you know, you had a choice when 30, 39, which were sector numbers, 30, 31, 32 for subsea.

Q. Uh-huh.

A. If you -- the person put the wrong number, like it should be 35 but they put 36, when uploading, if I type

36 it's going to go to the 36 folder --

Q. Uh-huh.

A. -- which would not be correct, but it would be incorrect -- consistent from transmittal to document to in Documentum.

Q. Uh-huh.

A. But if you pick some number that's out of the 30 through 39 -- which was subsea as I remember -- then, yeah, you probably would get a kickback, because you're trying to put the document in a whole other area. That document numbering is assigned to all different sectors, so --

Q. Okay.

A. Does that answer your question?

Q. Yeah.

A. Okay.

Q. Yeah.

A. You want to stay in your area.

Q. There is a good deal of e-mail traffic -- and I think you have -- you looked over when you met with Counsel before the deposition, about a five page e-mail that is now marked as Discovery Exhibit 96.

Let me just hand that back to you. I don't -- you did not -- I think I saw you when you walked in, so I know you -- if I'm right, you didn't have a long

time to meet with folks this morning.

A. No.

Q. And maybe didn't have a long time to read that. Did you -- did you meet with anybody about this deposition before this morning or was this morning the first time?

A. I met with someone before this morning.

Q. Okay. Well, if I'm -- if I'm going too fast for you or you need time to read something, I want you to be sure and say that, okay?

A. Okay.

Q. The -- the document that you're looking at, which is Exhibit 96, I think I'm right that you -- you wrote most of that document or at least drafted it and maybe other people changed it up some. Is that right?

A. That's right.

Q. And the point of that document seems to be to try to solve some problems. Is that basically right?

A. Correct.

Q. Would you explain to us what the problems were that you were trying to solve?

A. Basically all of the subsea documents, at that time, we wanted to make sure in the database that they were in certain phases, is what we're trying to go do here.

So, there's a couple things; there's making

sure the documents belong to what phase, whether it was Phase 1, Phase 2, Phase 3. And then we were also making sure at that time that those document numbers were correct, because a lot of documents were labeled 30, when they could -- and that's a general sector, so, it's --

Q. Uh-huh.

A. -- not wrong, it's just not as precise as it could be --

Q. Uh-huh.

A. -- because you could say it's a tree, or it's a manifold, or it's -- you could be more in detail.

Q. Uh-huh.

A. So, that would be the second thing that we were trying to also clean up. So, we're trying to do both.

Q. Now, by "phases," you're talking about phases of the project, is that --

A. Correct.

Q. -- of the building? Like DC-1 is a phase --

A. (Witness nodded head).

Q. -- and DC-3 was another phase?

A. Correct.

Q. And maybe -- was SS-1, was that a phase?

A. Correct.

Q. So, you wanted to see that a document that went to a particular phase, was in a folder for that phase?

A. Correct.

Q. Was it -- were you trying to make sure that all the documents for a given phase were all together in one place?

A. Correct.

Q. This -- and -- and the way the documents were, it was difficult to find all the documents for a particular phase, is what I'm understanding?

A. Correct.

Q. Now, had that problem existed before you got there?

A. Correct.

Q. Do you have any idea how long that doc-- that problem had existed?

A. I have no idea.

Q. Do you have any idea how long BP had been using Documentum for its work?

A. No.

Q. Okay. But it was using it when you got there?

A. Correct.

Q. All right. When you got there, you said Mr. Naseman was your first immediate superior?

A. Correct.

Q. Did he give you -- like take you around the office and introduce you to people, and give you sort of a

do you see that?

A. Okay.

Q. And in there, he -- the latter part of that paragraph, I guess the third sentence, he says, "In some cases, Tinikka does not have all the versions." Can you tell us about that situation and what -- what that's talking about?

MR. HUNTER: Objection, form.

A. Each document has versions. So, it could be A, it could be here's BP's first shot at looking at what I think it should be. And then B could be, I moved this pipe up to this area.

So, that goes back and forth for a while. And that's really just the history that leads up to your final version of the --

Q. (BY MR. PERRY) Uh-huh.

A. -- we agree, this is what we're going to do. So, each drawing or document can have versions --

Q. Can have versions but --

A. -- prior to the final.

Q. -- it says that in -- that in some cases you didn't have all the versions. And that if you turned over the version you had, there would be a risk that that was the wrong version. Do you --

A. Not the latest is probably what he meant -- is my

assumption is what he meant. If I'm coming in to a library that needs, you know, all the versions stacked and I only have C and I don't have A and B, then that's going to be obvious you don't have A and B. But if there's a D, would you know? So that's what he means by versions.

Q. If -- if -- in other words, if you say, well, I've got version D, it helps to know is there an E?

A. Correct.

Q. Is there an F?

A. (Witness nodded head).

Q. And sometimes you couldn't tell that?

A. Correct.

Q. In -- in this exhibit here in 95, which you wrote later but --

MR. HUNTER: That -- that's her CV.

Q. (BY MR. PERRY) Oh, I'm sorry. Excuse me. Exhibit -- I'm going to go back in that. I've got too much stuff.

A. That's 95, as well.

Q. That's your --

A. Same thing.

Q. -- CV, as well.

A. I have 91, 96, 98, 99 and 100.

MR. PERRY: Oh, I'm -- this is my problem.

(Conference out of the

Q. (BY MR. PERRY) -- believe I have an exact date. Do you -- do you remember about how long it was before he came on?

A. I don't remember.

Q. Okay. How did things progress as far as the issue of trying to get the closeout done after he came on?

A. Can you repeat the question?

Q. Sure. How -- how did -- how did things progress as far as what to do with these DC-1 documents, and how to get them in shape to be turned over after Mr. Abbott came on board?

A. Really we spent a lot of time, when Barry was there, on document numbering --

Q. Uh-huh.

A. -- back still at the drawing board, saying what's the best way to do this moving forward. So, Duff spent a lot of time on that. By the time Abbott came on board, the ideas were great but we were just way to late into the project to go changing numbers, because that's basically what Duff wanted to do.

So, Abbott's involvement, when he first came on, was kind of saying, okay, we've been working at this of -- of ways to do it, and what Barry proposed, we're not going to take that route. Let's go ahead with what we're doing with taking the Technip register, the spreadsheets,

and going to the leads.

So, we were really probably rolling up our sleeves and done strategizing about how, let's just get everything labeled at this point.

Q. Okay.

A. There was still a lot of how discussions going on when we were under -- when I was under Barry.

Q. Okay. And so, when Mr. Abbott got there, then it starts being more of an issue of, we've got to do something and let's get it done?

A. Let's get the spreadsheets out to the leads, basically.

(Exhibit 102 marked)

Q. Okay. Now, let me -- I'm going to hand you something that -- I'm trying to go in chronological order a little bit, and this may be a little bit on a different subject but --

A. Okay.

Q. -- let me hand you one that's Discovery Exhibit 102, which is an e-mail chain that you are involved in. And if you --

MR. PERRY: I'm sorry, Jonathan. There's a copy for you.

Q. (BY MR. PERRY) If you look at the very top -- at the very top, Mr. Abbott is forwarding an e-mail to

work done --

A. Okay.

Q. -- right? So, do you know what it was that caused Mr. Abbott to need to send out, to all these folks, copies of the standard procedure for numbering drawings which is attached and the projection execution plan which is attached to this? Do you know why he had to send all that out to these folks?

A. I would think just to kind of give them more, you know, information regarding our clean-up plan. They had their -- their lead meetings --

Q. Uh-huh.

A. -- and so, maybe it came up in their meeting with Broman, and someone maybe needed more information about project -- or the document numbering. Because what you have attached is the doc control procedure and the document numbering, and the document numbering does break down those sectors.

Q. You said earlier that when Mr. Abbott got there, the focus sort of changed from re-numbering the documents to rolling up our sleeves and going to work, kind of a thing?

A. Right.

Q. As -- did the rolling up our sleeves and going to work, did that involve asking the lead engineers to do a

good deal of work?

A. Yeah.

Q. And did the focus also start to shift for trying to get as-built documents for these various components?

MR. HUNTER: Objection, form.

A. Did the focus shift from getting as-builts?

Q. (BY MR. PERRY) Or did it -- well -- well, was it at least included in the focus that --

A. It's included.

Q. -- that you're needing --

A. It's a part of it.

Q. -- that you're needing to get as-builts?

A. It's a part of it.

MR. HUNTER: Objection, form.

(Conference out of the hearing of the Reporter)

MR. PERRY: No, not that one. Well, never mind.

Q. (BY MR. PERRY) How -- how did -- what kind of progress was made? After Mr. Broman sent out the e-mail that we've seen on November the 24th to the leads asking the leads to roll up their sleeves, in effect; and then we see this Exhibit 108 where Mr. Abbott is sending out some other information to the leads to help them out; what kind of progress was made in actually moving down

the road towards getting as-builts accomplished?

MR. HUNTER: Objection, form.

A. That I can recall, because it's a few of them. Some, of course, are going to move faster than the others, and that could be due to volume. I know some of them are bigger, like they have more documents in their area or their sector to mark up than others.

And we had also put out there if you had someone in your team that could do it, you know, on your behalf --

Q. (BY MR. PERRY) Uh-huh.

A. -- so some teams took that -- took that approach.

So, overall, I won't say there wasn't any, but of course there's going to be some leads that move faster than others.

Q. Uh-huh.

A. So -- I'd say half and half. You've got half that did nothing, and you've got half that were working on it and slowly giving us some feedback, and that kind of thing.

Q. Now, did you ever actually get to a point where you had all the as-builts, and were ready to turn them over to operations --

MR. HUNTER: Objection, form.

Q. (BY MR. PERRY) -- while you were there?

A. No. During the time, a little bit after these e-mails and Abbott left, we merged with THUNDER HORSE and they had a different doc control procedure. So, things were coming to a change, again. And that was upon me getting ready to exit, as well.

Q. Okay. So, you left the ATLANTIS program, I think you said in March --

A. Uh-huh.

Q. -- 2010? And at the time you left, the documents that people had been concerned about turning over for DC-1, when you got there --

A. (Witness nodded head).

Q. -- and that Mr. Duff had been concerned about, and Mr. Abbott had been concerned about, had they ever been turned over when you were there -- when you -- before you left the program?

A. Not to my understanding. Not the piece we're working on, and not to my understanding.

Q. Now --

(Conference out of the hearing of the Reporter)

(Exhibit 109 marked)

Q. (BY MR. PERRY) Now, there's a Discovery Exhibit 109. And this is an e-mail sent out in January by Mr. John McDougall --

TINIKKA CURTIS, having read the foregoing deposition and hereby affix my signature that same is true and correct, except as noted above.

Tinikka Curtis
TINIKKA CURTIS

THE STATE OF Texas)

COUNTY OF Harris)

Before me, Esthela Garza on this day personally appeared TINIKKA CURTIS, known to me (or proved to me under oath or through TDL 00427946) (description of identity card or other document) to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that they executed the same for the purposes and consideration therein expressed.

Given under my hand and seal of office this 26 day of September, 2011.

Esthela Garza
NOTARY PUBLIC IN AND FOR
THE STATE OF Texas

NOTARY PUBLIC STATE OF TEXAS
ESTHELA GARZA
My Commission Expires
March 30, 2015

IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF TEXAS
HOUSTON DIVISION

UNITED STATES OF AMERICA EX REL. KENNETH W. ABBOTT; KENNETH W. ABBOTT, INDIVIDUALLY; AND FOOD & WATER WATCH, INC., PLAINTIFFS	)	CIVIL ACTION NO.: 4:09-CV-01193
VS.	)	JURY DEMANDED
BP EXPLORATION AND PRODUCTION INC., ET AL., DEFENDANTS	)	

REPORTER'S CERTIFICATION

ORAL AND VIDEOTAPED DEPOSITION OF TINIKKA CURTIS

SEPTEMBER 12, 2011

I, Tammy S. Brown, Certified Shorthand Reporter in and for the State of Texas, hereby certify to the following:

That the witness, TINIKKA CURTIS, was duly sworn by the officer and that the transcript of the oral deposition is a true record of the testimony given by the witness;

That the deposition transcript was submitted on September 16, 2011 to the witness or to the attorney for the witness for examination, signature and return to me by October 18, 2011;

That the amount of time used by each party at the deposition is as follows:

Mr. David L. Perry - 02:10

Mr. Christopher V. Goodpastor - 00:00

Mr. George Gray - 00:00

Mr. Jonathan A. Hunter - 00:01

Ms. Anne M. Rodgers - 00:00

That pursuant to information given to the deposition officer at the time said testimony was taken, the following includes counsel for all parties of record:

Mr. David L. Perry appearing for Plaintiff(s);

Mr. Christopher V. Goodpastor appearing for Plaintiff(s);

Mr. George Gray appearing for Plaintiff(s);

Mr. Jonathan A. Hunter appearing for the Defendant(s) BP P.L.C., BP America, Inc., BP Exploration & Production, Inc., and BP Products North America, Inc.;

Ms. Anne M. Rodgers appearing for the Defendant(s) BP P.L.C., BP America, Inc., BP Exploration & Production, Inc., and BP Products North America, Inc.;

That a copy of this certificate was served on all parties shown herein.

I further certify that I am neither counsel for, related to, nor employed by any of the parties or attorneys in the action in which this proceeding was taken, and further that I am not financially or otherwise interested in the outcome of the action.

Further certification requirements pursuant to the

Rules will be certified to after they have occurred.

Certified to by me this 14th day of September, 2011.

Tammy S. Brown, Texas CSR 3269, RMR

Expiration Date: 12/31/11

Worldwide Court Reporters, Inc.

Firm Registration No. 223

3000 Weslayan, Suite 235

Houston, Texas 77027

800.745.1101

FURTHER CERTIFICATION PURSUANT TO THE RULES

The original deposition was/was not returned to the deposition officer on October 7, 2011;

If returned, the attached Changes and Signature page contains any changes and the reasons therefor;

If returned, the original deposition was delivered to Mr. ~~David L. Perry,~~ Chris Goodpastor Custodial Attorney;

That a copy of this certificate was served on all parties shown herein.

Certified to by me this 20th day of October, 2011.

Tammy Brown

Tammy S. Brown, Texas CSR 3269, RMR
Expiration Date: 12/31/11
Worldwide Court Reporters, Inc.
Firm Registration No. 223
3000 Weslayan, Suite 235
Houston, Texas 77027
800.745.2009

EXHIBIT 13

From: Broman, William H(HOU)
Sent: Monday, November 24, 2008 2:40:21 PM
To: Hughes, John D; Schwebel, John; Malone, Ryan P; Jondle, John J; Mack, John G; Kirkham, Benny (BAMA); Whitehead, David K (Technip); Vass, Malcolm (Technip); Weber, Rick G
CC: Broman, William H(HOU); Abbott, Ken (SWIFT TECHNICAL SERVICES); Naseman, Bill E; Curtis, Tinikka (NES)
Subject: Atlantis Document Control - Path Forward

Attachments: Sector 31 - Wellheads - J.Hughes.xls; Sector 32 - Trees - R. Weber.ZIP; Sector 33 - Manifolds - J. Schwebel.ZIP; Sector 34 - Pipelines - J.Mack.ZIP; Sector 35 - Controls- D. Whitehead.ZIP; Sector 36 - Umbilical - B. Kirkham.ZIP; Sector 37 - Risers - J. Mack .ZIP; Sector 70 - Installation- J. Hughes.ZIP

Leads, please read through the note below from Project Services outlining our approach to attacking the Subsea documentation issues we discussed a couple of weeks ago. As we discussed at that review we realize there is a large issue with getting this cleaned up and that we will all have to work with Tinikka and our teams to get the items reviewed and corrected.

I know we will cross a few bumps in the road on the way through this and ask that you work with Tinikka to map out a way to navigate through it with as little pain as possible. As we discover timing and resourcing issues please work them with me as needed and we will adjust as we have to so that it all gets done to our satisfaction.

If you have any comments or schedule conflicts please let me know.

Thx

Bill

Discovery Ex. No. **101**
Cause No.
4:09-cv-01193
Abbott v. BP

Bill Broman
Atlantis Subsea Delivery Manager
GOM Deepwater
281-249-1337 office
william.broman@bp.com

Attention Atlantis Leads: We are in the process of close-out for the DC-1 original scope project costs and the issuance of all final documentum drawings to the operations group for these working assets. It is critical that before we issue these to operations that we QC them.

As we have discussed, there are some issues with drawings not being in compliance with project drawing numbering and tracking procedures, and the status of drawings by drill center is not complete. We intend to remedy these problems and bring the DC-1 drawings to a proper close-out by the end of February 09, and issue as-built drawings to operations at that time. To do so, we need help from the project teams and leads to complete the work scope. At the same time, it is our intent to also get the DC3, Water Injection, and SS2 documentum tracking and documentation back in sync with current drawing control procedures.

We have reviewed the below plan will Bill Broman and the Greater Atlantis Document Control team, and we have their endorsement. **This effort will require dedicated support from each of your teams to review and correct the spreadsheets (Tinikka has attached the spreadsheets below by lead and sector) showing the documents under your area. Our intention is to correct the drill center #, rev #, rev status, etc. during the next few weeks (scheduled completion date is 01/09/09).** Once we have the drawing data correct in Documentum, we plan to then issue documentum drawing schedules with required as-built drawing need dates for closeout for all documents for monthly status updating by the schedulers and leads.

Schedule for Documentum updates/corrections

11/24/08 - Tinikka Distributes Drawing Index to Leads, and begins meeting with Leads to explain input required as well as to help work sample corrections
01/09/09 – Leads & delegates Complete mark-up of Document Index with corrections and drill center # as required
02/06/09 - All corrections and drill center # attributes loaded into Documentum
02/13/08 - Summary drawing schedule to leads showing current drawing revision status and required issue date for all as-built drawings
02/27/09 - Final as-built drawings to Tinikka for all DC-1 drawings for issue to operations
??/??/09 – Final as-built drawings to Tinikka for all SS2, WF, DC3 drawings for issue

Supporting Facts

Today most documents that come to BP document control comes from Technip document control in the subsea drop box in Documentum. Once the documents are QC'd, we find several issues with the documentation that need to be resolved before loading into Documentum.

Problem

Many of the documents in Documentum are incorrectly numbered, titled, and or have wrongly identified or missing drill centers. This creates a problem for retrieval and the ability to handover accurate final as-built documentation to Operations.

Recommendation

BP Document Control will provide a spreadsheet for each lead with documents broken down by Sector.

Redacted

A Document Status kick-off meeting will be scheduled with each of the Leads and/or Dedicated Representatives from each group for every document on the list to be reviewed and distinguish if the following attributes are correct. If they are incorrect, the leads (or designate) will need to correct them up on the spreadsheet for Tinikka to input into Documentum:

- Sector
- Discipline
- Document Type
- Area – Drill Center
- Revision
- Rev Purpose Code - Status
- Archival or Handover

Tinikka will work for a half-day with each lead (or designate) to show them what drawing fields on the list must be updated and to go through examples with them. The leads will then be responsible to complete the mark-up of their individual spreadsheets and return to Tinikka for input into Documentum by 01/09/09.

BP Document Control will begin to record the following attributes in documentum to allow for more enhanced search capabilities.

- Originator/ Contractor Firm
- Transmittal number
- Contractor Document Number
- Status Code

Process

1. The Lead will receive the spreadsheet by **SECTOR.**
The first attributes to be reviewed are the Sector, Discipline, and Document Type. They need to be reviewed for accuracy and corrected as needed. These attributes have a lot of impact on how documents are filed in Documentum.

    - Sector
    - Discipline
    - Document Type.

2. The next attribute to be identified is the **AREA - (drill center).**
The drill center will determine the next steps to take with the document.

    Because we work in phases it is to our advantage to label the document by phase, if it's relevant, to the document for easier identification at handover.

    Subsea All

    - Documents that are common to all Drill Centers

    - There should not be very many of these documents, and most documents should still have a specific sector other than 30.

    - Most of these documents will stay with the project until the end of the job.

    Drill Center 1 – South Flank

    DC-1

    - **Documents that illustrate what is currently installed and planned to stay unless other circumstances occur.**

    - **These documents are a priority because most of these documents reflect what's currently installed and operating and need to be handover to Operations.**

    DC-1 (SS-0)

    - Documents that illustrate Original design / equipment that was removed.

    - All of these documents will probably be archived.

    DC-1 (SS1)

Redacted

- **Documents that illustrate what is currently installed but planned to be removed by another phase.**
- **These documents are also a priority because most of these documents reflect what's currently installed and operating and need to be handover to Operations.**
- **Some of these documents will be added to a cross-reference spreadsheet to ensure that they are superseded by the next phase documents and correctly numbered during the next phase.**

DC-1 (SS2)

- Documents that illustrate what will replace equipment that is currently installed
- These documents are still in review/comment status so any errors made can be corrected.

Drill Center 3 – North Flank

DC-3

- Documents that are assigned to Atlantis North Flank (ANF) Base Case.
- These documents are still in review/comment status so any errors made can be corrected.

DC-3 (Phase I)

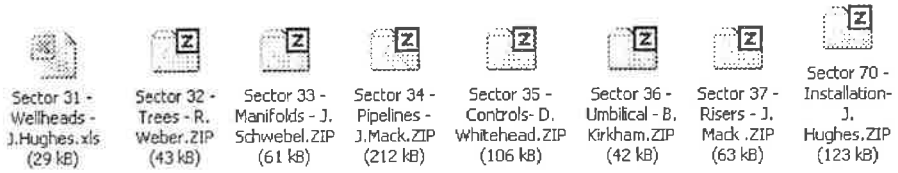
- Documents that is specific to ANF Phase I only.
- These documents are the next priority because some of these documents reflect what is installed but not operating. These documents are second priority on the list to be handed over to Operations.

DC-3 (Phase II)

- Documents that are specific to ANF Phase II only.
- These documents are still in review/comment status so any errors made can be corrected.

3. Now we can begin to check the **revision code** and **rev purpose code** *(status code)*.

4. In some cases the leads and/or Rep know if the documents are going to be **handover to Operations** or **archived deliverables.** This step will allow us to prioritize correcting the handover documentation before the archival data.



Redacted

EXHIBIT 14

Gulf of Mexico Deepwater Development

Records Management Project Execution Plan

DOCUMENT NUMBER: 1440-10-AD-PR-0005

REV	DATE	DOCUMENT STATUS	ORIGINATOR	CHECKED	APPROVED
	3-10-04	**Issued to DT**	JAG	MT	9/27/04

Records Management Number	Job Number	Area/Unit Designation	Discipline Code	Document Type	Sequence Number	Document Revision
	1440	10	AD	PR	0005	0

\\eng\data\1440\Users (last_first)\Willis_Karen\Procedures\RecordsMgmtPEP\DocControl PEP-working031104.doc

4.0 WORK PROCESS - ENGINEERING

- Records Management involves receiving, distributing, reproducing, issuing, filing, and proper storage of hard / electronic files. Electronic files will be warehoused in Documentum
- Records Management shall be in accordance with the following.

4.1 Processing Documents

All Engineering Technical Documents issued by the Project shall flow through the Project Records Management Team.

The Project Records Management Team will check for the following information prior to issuing a Transmittal:

- signed / approved original drawings / documents
- electronic files for Documentum
- current revision number, date, and reason for revision are on original documents
- prior revision, date, and transmittal history information appear on original documents
- title changes and notes are the same on the original documents
- If any information is missing or incorrect, the Project Records Management Team will return the Engineering Technical Document to the Disciplines Lead to fix.
- Once the information has been verified, the Project Records Management Team will issue a Transmittal

4.2 Warehousing Engineering Technical Documents in Documentum

All Project Engineering Technical will be warehoused in BP Houston Central Documentum per Client requirements. Documents will be transmitted through the use of the Controlled Exchange feature of Documentum and then will be reposted into Controlled Documents

5.0 VENDOR DATA TECHNICAL DOCUMENTS

The Vendor Document process will consist of the following processes to ensure all requirements are met for Documentum:

- Vendor Data submitted is compared to P.O. requirements
- Vendor Data is tracked using an approved database
- Vendor Data is reviewed by Project Team in a timely manner
- Vendor Data is statused and signed off by Project Team after review
- Vendor Data is officially transmitted back to Vendor
- Tracking database is updated according to Company procedures

EXHIBIT 15

IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF TEXAS
HOUSTON DIVISION

UNITED STATES OF AMERICA,)
EX REL. KENNETH W. ABBOTT;)
KENNETH W. ABBOTT, INDIVIDUALLY)
AND FOOD & WATER WATCH, INC.;)
Plaintiffs,) Civil Action No. 4:09-cv-01193
)
v.)
)
BP EXPLORATION AND PRODUCTION) JURY DEMANDED
INC., ET AL.,)
Defendants.)

****

VIDEOTAPED ORAL DEPOSITION OF

WILLIAM ERIC NASEMAN

NOVEMBER 30, 2011

****

VIDEOTAPED ORAL DEPOSITION OF WILLIAM ERIC NASEMAN, produced as a witness at the instance of the Plaintiffs, and duly sworn, was taken in the above-styled and numbered cause on the 30th day of November, 2011, from 9:05 a.m. to 4:54 p.m., before Mary Burkes, CSR in and for the State of Texas, reported by machine shorthand, at Fulbright & Jaworski, LLP, 1301 McKinney Street, Suite 5100, Houston, Texas 77010, pursuant to Notice, and the Federal Rules of Civil Procedure and the provisions stated on the record or attached hereto.

Q. But you're not sure?

A. I'm not a hundred percent certain.

Q. Okay. And then I think you said you began the position in 2002. Prior to 2002, you were Project Engineering Manager for Amoco Fabrics and Fiber, correct?

A. That's correct.

Q. And who was your employer there, which entity?

A. I believe -- I believe it was Amoco Fabrics and Fibers.

Q. Okay. Well, I want to go back to the time immediately before April and May, 2009 when you were Project Services Manager for Atlantis. Do you recall that testimony earlier?

A. Yes.

Q. Is that correct, in April and May of 2009 I think that's when you ended your term as Project Services Manager for Atlantis?

A. Yes.

Q. Okay.

A. Yes, yes.

Q. And before that time when you were serving in that role, can you tell me the -- your duties as Project Services Manager for Atlantis?

A. They would have been similar to the -- the duties that I currently have as Project Services Manager. So they would have been around the various cost engineering, cost forecasting, estimating, planning scheduling, management of change, document control, staff planning control, the interface with our Supply Chain group and our Finance team, project closeout, benchmarking.

Q. Benchmarking would be included?

A. Yeah.

Q. Project scheduling would be included?

A. Yes, planning and scheduling.

Q. And what was the -- the scope of those activities? Did your duties and responsibilities apply to the entire Atlantis project?

A. As the Project Services Manager, they were for the entire Atlantis project.

Q. And what do you mean when you say "Atlantis project"?

A. So the construction of the Atlantis scope of work, so the floating facility, the subsea trees, manifolds, the wells, the flow lines, the umbilicals, the controls.

Q. Basically the --

A. It's the --

Q. -- entire planning, design, and construction of the entire Atlantis facility, correct?

A. Correct.

Q. Does it --

A. Not -- excuse me, not the design. So my team didn't do any design work. We worked with the engineers to plan out their scope of work to put costs against that, forecast costs, that sort of thing.

Q. Okay. But all the -- the different aspects of your position you described, such as cost engineering and document control and things like that, applied to the -- the process of planning, engineering, designing, and constructing the Atlantis facility, correct?

A. Correct.

Q. Although your -- your -- what you're telling me is that your particular group did not do any actual engineering, correct?

A. Correct. Yeah.

Q. But you set the schedules for the engineers to complete their work, correct?

A. No.

Q. Okay. Was the schedule that you set, did

A. -- it's deep.
Q. It's deep?
A. Yes.
Q. So it's at least 6,000 feet of water?
A. I believe so.
Q. Okay. It's operating in Federal waters in the outer Continental Shelf, correct?
A. Yes.
Q. Okay. They put it together in Ingleside, Texas before sail-out?
A. The --
Q. That's where the yard was?
A. The Topsides and hull were ~~made~~ mated (Per changes/signature pg. attached) in Ingleside, yes.
Q. Okay. And then first oil was in October, 2007, correct?
A. I believe that's correct, yes.
Q. So when you were describing your duties as Project Services Manager for Atlantis, I think you said you had responsibility for planning and scheduling. You also said budgeting. You also said document control, correct?
A. I didn't say budgeting. I said cost engineering, cost management.
Q. Okay.

Q. (By Mr. Goodpastor) Is that correct?

MS. RODGERS: You can answer.

A. Yes.

Q. (By Mr. Goodpastor) Okay. So ensuring that the proper revision number was on an engineering drawing was not part of the duties and responsibilities of the project services group that you oversaw?

A. That's correct, it was not.

Q. Okay. Did you -- during that time as Project Services Manager for Atlantis, did you have responsibility for ensuring that these engineering drawings and documents met regulatory requirements?

A. No.

Q. Did you participate in that effort at all?

A. No.

Q. Did you, during your time as Project Services Manager for Atlantis, have responsibility for ensuring that the document control procedures and guidelines were followed?

A. Yes.

Q. And so, if there were a published document control procedure, it was your responsibility and your team's responsibility to ensure that all BP personnel and contractors followed those procedures

and guidelines, correct?

A. Yes.

Q. Now, I want to kind of just go over some of the budgeting and scheduling.

MS. RODGERS: Chris, if you're starting into a new topic, you want to just take a quick break?

MR. GOODPASTOR: Sure.

MS. RODGERS: Thanks.

THE VIDEOGRAPHER: Off the record at 10:07 a.m. Ending Tape 1.

(Brief recess taken.)

THE VIDEOGRAPHER: On the record at 10:15 a.m. Beginning Tape 2.

Q. (By Mr. Goodpastor) Mr. Naseman, I think before we took the break I asked you if you as Project Services Manager for Atlantis had any responsibility or duty regarding ensuring that engineering drawings and other documents met regulatory requirements, and I believe your answer was no --

A. No.

Q. -- is that correct?

Did anyone ever contact you regarding regulatory requirements of the engineering

documents?

A. No --

Q. Were you --

A. -- not that I can remember.

Q. Did anyone contact any member of your team regarding the regulatory documents -- regulatory requirements for the engineering documents?

A. Not that I'm aware of.

Q. Did Dennis Sustala ever contact you regarding the regulatory requirements or ensuring that the engineering documents met regulatory requirements?

A. Not to my knowledge.

Q. Did Ken ~~Dijon~~ DeJohn (per changes/signature pg attached) ever contact you about ensuring that engineering documents met regulatory requirements?

A. Not to my knowledge.

Q. I wanted to go into the -- and, again, an overview of the budgeting issues and just an outline of the general process that applied during your tenure as Project Services Manager for Atlantis.

A. Uh-huh.

Q. In general, how does -- how does the budgeting start? How does the budgeting process

Q. Okay. And so this risk allocated forecast document goes to the Project General Manager and the Project Services Manager, and what do they do with it?

A. They use it to decide what -- what they're going to ask for in the Finance Memorandum.

Q. And tell me what a Finance Memorandum is.

A. It's the document that BP uses to have projects approved --

Q. Okay.

A. -- to essentially approve the spending --

Q. So --

A. -- for the projects.

Q. -- other than the people who work for the Project General Manager and the Project Services Manager for the Atlantis project, who else works on preparing the Finance Memorandum?

A. So I don't believe the Project Services Manager's direct reports work on that. It's done by the Finance team and the Project General Manager --

Q. Okay. So let me back up.

A. -- predominantly.

Q. I'll just ask you straight out. Who -- who --

Q. Would it be Greg Sills who presents the Finance Memorandum, or did Greg Sills prevent -- present the Finance Memorandum --

A. I don't know.

Q. -- for approval?

A. I don't know.

Q. Well, let me hand you a document that's been marked as -- previously been marked in another deposition as Exhibit 153. You see on the front page of that document it says -- it's addressed to Lord Browne?

A. Yes.

Q. And it also says on the front page "Atlantis FM"?

A. Yes.

Q. Is FM a term that's frequently used to refer to Finance Memorandum?

A. Yes, it is.

Q. Okay. And we also see that on the first page it was received by G.S. Sills?

A. Yep.

Q. And that's Greg Sills, correct?

A. That's correct.

Q. Have you ever seen this document before?

A. With the cover letter, I do not believe so.

Q. Have you seen the -- any portion of this document before?

A. Yes, I believe I have.

Q. Okay. And this is the Finance -- if you look on Page 2, it says Finance -- at the top, "Finance Memorandum, Gulf of Mexico Deepwater Development Business Unit, U.S. Capital Expenditure, Atlantis Oil Field Development." Did I read that correctly?

A. I believe so, yes.

Q. So this is the Finance Memorandum we've been talking about for --

A. Yes.

Q. -- the Atlantis project, correct?

A. That's what it appears to be, yes.

Q. Okay. And in that second line it says: "Gulf of Mexico Deepwater Business Unit." What is the Gulf of Mexico -- Mexico Deepwater Development Business Unit?

A. Oh, at the time the company was organized in business us- -- excuse me -- business units and the Gulf of Mexico Deepwater Development was one of those units.

Q. Okay. Were those units associated with any particular entity, BP entity, or were they --

A. I don't -- don't know. They were part of the Upstream, part of the company.

Q. And so different employees from different BP entities could be part of that union -- unit, correct?

A. So -- so my understanding is when they would work in here, they would be part of this business unit.

Q. Okay. And they could be employees from BP America or employees from BP Exploration and Production or employees from BP p.l.c.?

A. Yeah.

MR. DENNY: Objection, form.

A. Yeah, I --

Q. (By Mr. Goodpastor) So --

A. -- I'm not familiar with what limitations there might be around that --

Q. Okay.

A. -- so.

Q. the -- so -- let's see, if you look at Page 2 on Exhibit 153 under that first table it says: "Approval is sought for the release of 1,125 million." That's $1.125 billion, correct?

A. That is correct.

Q. Okay. And that is "to progress the

Atlantis project through the field development of the Proved Reserves portion of the field, " correct?

A. That's what it says, yes.

Q. And so this is the document that is seeking approval, basically, to spend the money to do and create the Atlantis project, correct?

A. Yes.

Q. Okay. And if we look on Page 4 of the document, do you see down there there's a heading kind of in the middle of the page, says "Authority Sought"?

A. Yes.

Q. And under that I'm going to read that for you. It just basically says: Support for the release of funds totaling 1,125 billion (with an estimate tolerance of plus or minus 13 percent) is sought to progress the Atlantis project through full field development. Did I read that correctly?

A. Yes.

Q. So we have a list of signatures here and different actions associated with those signatures. Do you see the first one that says "proposed by"?

A. Yes.

Q. And that was proposed by D.J. Blackwood,

say, the Finance Memorandum came back and it was approved but it had a change in it, then that change would have to be worked through all the forecasting and other cost estimating work that was done prior to the approval of the Finance Memorandum, correct?

A. That would be my understanding of what would need to be done. Typically it'd go the other way.

Q. Okay.

A. They'd ask what the impact of the change was, and that would be developed and resubmitted.

Q. Resubmitted for approval?

A. Yeah --

Q. Okay.

A. -- typically.

Q. And so after approval of Finance Memorandum for Atlantis, then, you basically have a time-phased forecast document that gives you your budget for the Atlantis project and your schedule for the Atlantis project, correct?

A. Correct.

Q. And is that document used to track the progress of the Atlantis project going forward?

A. So a schedule and a forecast are used to

A. It could.

Q. So if you had, let's say, a delay in the schedule, a de- -- a delay in the schedule that puts first oil out a month later than you thought, would that be considered -- or than originally planned, would that be considered a cost increase?

A. If there were costs associated with the delay in the schedule.

Q. Okay. Would it --

A. They're interrelated, but they're not.

Q. Okay.

A. They're not a hundred percent.

Q. If you had a delay in the schedule beyond the date initially selected for first oil, would that have a financial impact on the project as a whole?

MR. DENNY: Objection, form.

A. More than likely it would.

Q. (By Mr. Goodpastor) And what is that impact?

A. It would be the -- the value of the project going forward, the present value.

Q. And how would it affect that present value?

A. Depending upon the -- the current price forecast, it would either -- or -- yeah, price

forecast in view of the -- of the future, more than likely make it go down.

Q. Okay. So a delay typically would reduce the present value of the project as a whole?

A. Yes, everything else being equal.

Q. And so it's very important in terms of managing your schedule to try to ensure that you meet first oil according to schedule, correct?

MR. DENNY: Objection, form.

A. We manage to try and meet first oil.

Q. (By Mr. Goodpastor) And that's very important, correct?

A. Yes. It's one of many things that are very important, yes.

Q. All right. So when you update the forecast and the schedule on this monthly basis, who are those updates communicated to?

A. Typically they are communicated to the Project General Manager, his direct reports. They're reviewed typically in a meeting. The Project Services Team leads would be aware of their particular areas, and then the Finance organization.

Q. Okay. Other than the updating the forecast and schedule on a monthly basis, are there any

additional spend that we needed to do to complete the work scope that we had. As with any project, things -- certain pieces of work don't -- don't happen like you anticipate. And so you end up having to -- to do things a little bit differently. We did have some remediation work on the hull -- or excuse me -- on the topsides while it was in Ingleside. There was quite a long number of -- of things that changed on the project that -- that took us, you know, seven years or something to execute.

Q. Anything else you can remember that was the basis for that Supplemental Finance Memorandum?

A. So I've got the increase there. No, not off the top of my head.

Q. What remediation work had to be done on the topsides?

A. So what I recall on the topsides were we had to replace some piping, and we had to replace a smoke detection system.

Q. Anything else?

A. I don't recall.

THE VIDEOGRAPHER: You have two minutes left.

MR. GOODPASTOR: Why don't we go ahead

Financial -- a Supplemental Finance Memorandum?

A. It was the -- just the final approval of the increase in the budget.

Q. Okay. And so do you know how much additional money the Finance -- Supplemental Finance Memorandum requested, ballpark?

A. Yeah, ballpark, it was -- what was the original? Original was 1.2 billion, I believe. The final was about four -- between 4 and 5 billion.

Q. Was that additional?

A. I think that's total.

Q. So the Supplemental Finance Memorandum sought to increase the cost of the project from 1.125 billion to somewhere around 4 or 5 billion, you said?

A. That's correct.

Q. That's a fairly significant increase?

A. Yes.

Q. Other than what you've described, do you -- do you know the primary cause of that increase?

MR. DENNY: Objection, form.

A. I think we've already discussed that to the best of my memory.

Q. (By Mr. Goodpastor) Were there any other

approved the original Finance Memorandum down to Simon Todd and his group or Greg Sills and his group?

A. Not that I'm aware of.

Q. Were there any changes in the -- okay. Strike that.

What was the original scheduled first oil date for the Atlantis project?

A. It's probably in here.

Q. Well --

A. I believe it's -- I believe it was July of 2006, according to this memorandum.

Q. Okay. And would it surprise you --

A. A visual target.

Q. -- if I've seen other documents that say May, 2006 --

A. No.

Q. -- would that date surprise you?

When was it reset to October of 2007?

A. So it -- as the -- as -- the answer is many times, as additional work was required and as our progress didn't meet what we originally had thought. So every time that we would do one of our updates, we would take a look at when was the next schedule -- what did we think the -- the first oil

date would be. So it was updated on a regular basis.

Q. So every time you did a monthly update in the forecast, in terms of scheduling or budgeting, that first oil date may change?

A. We would look at -- yeah. So there was -- there was some schedule contingency in the -- our original date, which is probably why there's a difference between May and July. So as -- as the work is completed on a monthly basis, that date actually kind of moves back and forth, depending on whether you've had a good month or not a good month.

Q. So do you know the first time that the first oil date was formally changed for the Atlantis project?

A. No, I don't know what it was.

Q. Does the first oil date -- a change in the first oil date need to be approved by someone other than the general manager of the project?

A. I -- I don't know. I assume it does.

Q. Because that changes the value of the project, as we discussed before, correct?

A. Correct.

Q. Are you aware of any approval sought for a

management at BP would prefer not to delay the first oil date on a project, correct?

A. That's -- yes.

MR. DENNY: Objection, form.

A. That is typically correct.

Q. (By Mr. Goodpastor) And typically that's correct because the value of the project goes down with the delay of the first oil date, correct?

MR. DENNY: Objection, form.

Q. (By Mr. Goodpastor) All other things being equal.

MR. DENNY: Objection, form.

A. All other things being equal, yes.

Q. (By Mr. Goodpastor) So a delay from May 2006, or June or July of 2006, to October of 2007 is a significant delay in terms of the value of the project, correct?

MR. DENNY: Objection, form.

A. It's a significant delay in the startup date of the project.

Q. (By Mr. Goodpastor) And all other things being equal, that's a significant --

A. If -- if other things --

Q. -- change in the decrease in the value of the project, correct?

MR. DENNY: Objection, form.

A. If other things were equal, yes.

Q. (By Mr. Goodpastor) My statement's correct?

A. If other things were equal, correct. Yes.

Q. Did you ever -- are you aware of any calculation or representation in the change of the value of the project that resulted from the delay of the first oil date?

A. I would assume that our Finance folks would have done that.

Q. Did you do that?

A. No.

Q. Anyone in particular in Finance that's responsible for preparing that information?

A. I don't know who on -- on the team would have actually done the calculations.

Q. Was that information communicated to you or anyone on your team?

A. Not on a regular basis, no. We typically dealt with what was it going to cost to finish the project. The Finance folks dealt with what was the value in the internal metrics on that.

Q. And the information concerning the value as it relates to the first oil date was communicated

in or something like that?

A. Yeah. Could be a claim about changes, whether something was a true change or not.

Q. Do you see in the next box --

A. Uh-huh.

Q. -- The first bullet point says: "Carryover work to Corpus if Shipyard does not Deliver Fully Commissioned Hull, ($3 - 6 million)."

A. Yes.

Q. Are you aware of any carryover work to Corpus and any failure of the shipyard to deliver a fully commissioned hull?

A. I know that there was carryover work.

Q. And what is carryover work?

A. It's work that -- that we as the owner would say needed to be completed under the contract that was not completed under the contract.

Q. And there was carryover work with regard to the hull and -- for the Atlantis project?

A. That's my memory.

Q. And DSME was responsible for the hull, correct?

A. Correct.

Q. And what sort of carryover work was required for the hull?

A. I -- I don't recall the details.

Q. But that was completed in Corpus; is that correct?

A. I believe it was.

Q. And who completed that work?

A. So BP would have completed that work with the -- the shipyard in Corpus.

Q. Would DSME be required to complete that work in some respect?

A. I think from a contractual basis, probably.

Q. Do you know if they actually did complete work -- carryover work in Corpus?

A. I do not believe they did.

Q. The second bullet point says: "Unanticipated DSME initiated claims (Claims Management) ($8 - $10 MM)." Again, do you know what "unanticipated DSME initiated claims" refers to?

A. No.

Q. But we do know it has a capital expenditure impact of approximately 8 to 10 million dollars, correct?

A. That's the range that was put in here.

Q. The next bullet point says: "Late Changes Due to DSME rework or design modifications." And

A. Yes.

Q. What are those two -- what does "Subsea Facility To Go" refer to?

A. So that would be the -- this would be the summary of the remaining costs.

Q. So this was a summary of the remaining money being requested for approval in the supplementary Finance Memorandum, correct?

A. That's my memory, yes.

Q. Okay. And -- so Subsea/Facility To Go, does that mean essentially that that's how much money is needed to be spent to finish the project?

A. That's correct.

Q. Okay.

A. Is my understanding, yep.

Q. What is "D&C Cost To Go," the line under that? What does that mean?

A. Drilling and completions. That's the well's related cost to go, or yet to spend.

Q. And then we see "Gross Total Project Cost" not to exceed down at the bottom, correct?

A. Yes.

Q. And that figure is 5.932 billion, correct?

A. Yes.

Q. So that's a fair amount more than what we

saw -- actually saw in the Supplemental Finance Memorandum, correct?

A. What was the number in the supplemental FM?

Q. Refer to maybe the third page.

A. Thank you.

So this -- this is a gross cost --

Q. Uh-huh.

A. -- on the spreadsheet. This would be a net cost in the -- I believe net cost in the Finance Memorandum.

Q. Okay. And what's the difference there?

A. So gross cost is -- is the actual cost. The net cost reflects only our percentage ownership in the project.

Q. Okay. So the net cost in the Supplemental Finance Memorandum would subtract out the amount that would be charged to your -- BP's partner, BHP Billiton, correct?

A. Correct.

Q. So overall cost of the project had increased far more than 4.1. It increased to a point far more than 4.19 billion, correct?

A. This says, yeah, closer to 6 billion. Was our projection.

Q. What does -- under the blue column,

"Subsea" --

A. Yes.

Q. -- it says "Engineering To Go (SS2)." I think you referred to SS2 earlier. But can you just repeat what Engineering To Go for SS2 would mean?

A. So that would be the engineering that would be associated with the work scope called SS2, which was the manifolds and the manifold replacement.

Q. Okay. What does -- and I think you told me what TOI meant and refers to Technip.

A. That is correct. Yes, that is correct.

Q. And su what does "TOI program" refer to? Was that just Technip's work?

A. That's Technip's work, yeah.

Q. What does the next line "BP T&E" refer to?

A. So that would be travel and entertainment expenses for BP.

Q. Okay. And that's just basically travel of employees to the different sites?

A. Correct.

Q. The -- now, if we look down further, there is a listing, "QA/QC." Do you see that under "Engineering To Go"?

A. Yes.

Q. (By Mr. Goodpastor) Mike Gardner?
A. Mike Garland.
Q. Mike Garland. My apologies.
A. Okay.
Q. Mike Garland had come on by May of 2008, correct?
A. Yes, I believe so.
Q. And so was he also working on document control at that time?
A. He was coordinating it.
Q. So according to this summary, only Technip was doing document control work?
A. No.
Q. Well, then, where else in the summary is the cost of updating the documents?
A. So as I said, it would be in -- could be there. Could be in the BP T&E.
Q. Travel and entertainment?
A. Yeah. Could be.
Q. The cost of updating documents to as-built status so they could be handed over to Operations is included in travel and entertainment?
A. It's probably in the "IPT/EM/Other" over here.
Q. In fact, you don't know where it's

included, do you?

A. No, not specifically.

Q. Was there no money scheduled or budgeted for updating the documents to as-built status in May of 2008?

A. I'm not sure how to answer that question. The -- the updating of the documents that TOI would do was included in the TOI costs. The management of that, supervision of that work was included in the BP costs.

Q. Well, where on this spreadsheet is it included?

A. Okay. So, again, the TOI costs would be under the engineering program.

Q. Uh-huh. All right.

A. The BP costs would be in the IPT/PM and Other.

Q. IPT/PM and Other?

A. Correct.

Q. And what was that amount allocated to updating the --

A. I don't -- I don't know.

Q. And so you have no idea how much money was allocated to updating engineering documents to as-built status at that time?

A. That's correct.

Q. It could be zero, as a matter of fact, correct?

A. I don't believe so.

Q. But it could be?

MR. DENNY: Objection, form.

A. I don't believe so.

Q. (By Mr. Goodpastor) Well, are you aware of any specific amount of money that was budgeted for updating the engineering documents of the Atlantis project to as-built status?

MR. DENNY: Objection, form.

A. I'm aware that there were costs for the people that do those jobs that were included in the IPT/PM and Other.

Q. (By Mr. Goodpastor) But you can't tell me the number?

A. No, I can't.

Q. So based on your experience with the Atlantis project, when did document control efforts -- well, let's first start. What is -- what are docu- -- what is document control as it relates to the Atlantis project?

A. So for the project, it was essentially the tracking of the -- the documentation.

Q. Okay. And what do you mean by "tracking"?

A. So it was the receipt from vendors. It was entering into the documenta- -- Documentum system, those documents.

Q. Did it involve ensuring that the documents were updated to as-built status before they were handed over to Operations?

A. No.

Q. That wasn't your job?

A. No.

Q. That wasn't within the scope of Project Services Group?

A. No.

Q. Well, you were responsible for ensuring that folks follow the document control guidelines published by BP, correct?

A. That would have been my responsibility, yes.

Q. And what's the purpose of having document control?

A. Well, the purpose of having document control is to keep track of the documentation on a project and to have the necessary information to hand over to the Operations team.

Q. And when you say "documentation," you would

include engineering drawings, correct?

A. Correct.

Q. And why is it necessary to have the appropriate documentation to hand over to the Operations team?

A. So the Operations team knows what they have to operate.

Q. So it's important that those documents handed over to the Operations team are actually up to date and reflect the installed status of the facility, correct?

A. For ones that are drawings, yes, that would be correct.

Q. What does a subsea P&ID show?

A. I don't know.

Q. Have you ever seen a subsea P&ID?

A. I would say probably, but I couldn't tell you for sure.

Q. Well, you know -- well, what does P&ID refer to?

A. I think it's process and instrumentation. I don't -- not sure.

Q. You're a chemical engineer, right?

A. Yes.

Q. And you've been an engineer for how long?

hydrocarbons up from the wells, you need piping, correct?

A. Correct.

Q. And you know that on that piping you need instruments to determine things like pressure and flow, correct?

A. Uh-huh, correct.

Q. And so do you understand that a piping or P&ID would show --

A. Yeah.

Q. -- the location of piping?

A. Yes.

Q. And you understand that it would also show location of certain instruments?

A. Yes.

Q. And it would also show the location of valves, correct?

A. I would think so, yes. Yeah.

Q. Okay. So what is an as-built drawing?

A. So you'd have to ask one of the engineers. My understanding is it would be a depiction of how something was actually installed or constructed.

Q. Well, document control procedures of BP address as-built drawings, don't they?

A. I don't believe they do.

Q. You don't believe that the --
A. I don't --
Q. -- BP procedures for document control address as-built drawings?
A. They address the final installation drawings, I believe.
Q. Is that term "as-built" used in any of the BP documentation regarding document control?
A. I don't recall.
Q. Well, you were responsible for document control on the Atlantis project, correct?
A. That's correct.
Q. And you don't know whether the document control guidelines refer to as-built documents?
A. That's correct.
Q. Well, if you don't know the guidelines, it makes it difficult to ensure that they're enforced, doesn't it?
A. Yes. And that's one of the reasons we had Mr. Garland.
Q. Well, what is your understanding of an as-built document?
A. So my understanding of an as-built document is an updated drawing for as something was installed in the field.

A. That would have been shortly after I had been on the Project Services Manager's role, yes.

Q. Okay. So --

A. Yes.

Q. -- have you ever heard anyone use the term regarding work at BP called "invoking STOP the JOB"?

A. Yes.

Q. What does "STOP the JOB" mean?

A. That means that anyone has the ability to stop the work if they think that it's unsafe.

Q. And I think you told me who Greg Sills was. Who is Gary Imm, I-M-M?

A. So Gary Imm was the Deputy Project Manager.

Q. And so he assisted Greg Sills when he was Project Manager of the Atlantis platform -- or Atlantis project?

A. That's correct.

Q. I'm going to hand you an e-mail that's been marked as Discovery Exhibit No. 348.

(Discovery Exhibit No. 348 was marked.)

Q. (By Mr. Goodpastor) This is an e-mail -- if you look at the top, it's an e-mail from Ron Berger to Greg Sills, Gary Imm, and others, dated May 11th, 2006. Do you see that?

WITNESS NAME William Erre Naseman DATE OF DEPOSITION: November 30, 2011

CHANGE	LINE	REASON
Syn to S Imm	14 page 33	Correct Spelling
mode to mated	13 page 41	correct word to reflect that hull & topsides were connected together (mated) at Ingleside
Dijon to DeJohn	14 page 47	Correct Spelling
handaxe to logo	11 page 267	Correct wording

I, WILLIAM ERIC NASEMAN, read the foregoing deposition and hereby affix my signature that same is true and correct, except as noted above.

William Eric Naseman

WILLIAM ERIC NASEMAN

THE STATE OF Tx)
COUNTY OF Harris)

Before me, Virginia Dennard, on this day personally appeared WILLIAM ERIC NASEMAN, known to me (or proved to me under oath of through _____) (description of identify card or other document) to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that they executed the same for the purposes and consideration therein expressed.

Given under my hand and seal of office this 9th day of January, 2011.

Virginia Dennard

NOTARY PUBLIC IN AND FOR
THE STATE OF Texas

VIRGINIA DENNARD
Notary Public, State of Texas
My Commission Expires
April 08, 2014

THE STATE OF TEXAS)

COUNTY OF HARRIS)

I, Mary Abbott Burkes, Certified Court Reporter, duly commissioned and qualified in and for the State of Texas, do hereby certify that there came before me on November 30, 2011, at Fulbright & Jaworski, LLP, 1301 McKinney, Suite 5100, Houston, Texas 77010, the following named person; to wit, WILLIAM ERIC NASEMAN, who was by me duly cautioned and sworn to testify to the truth and nothing but the truth of his knowledge touching and concerning the matters in this cause; and that said witness was thereupon carefully examined upon his oath and his examination reduced to writing under my supervision; that it is a true record of the testimony given by the said witness, that said witness requested review and signature of the deposition; that changes, if any, made by the witness were returned and are contained on the Correction Page attached to the original transcript.

I further certify that I am neither attorney for nor counsel for, nor related to nor employed by any of the parties in the action in which this statement is taken, and further that I

am not a relative or employee of any attorney or counsel employed by the parties hereto, nor financially interested in this action.

IN WITNESS WHEREOF, I have hereunto affixed my hand and seal of office on this, the 30th day of November, 2011.

Mary Abbott Burkes,
Certified Shorthand Reporter
In and for the State of Texas
Certification No. 5199
Date of Expiration: 12/31/11

Worldwide Court Reporters
Firm Registration No. 223
3000 Weslayan, Suite 235
Houston, Texas 77027
(713) 572-2000

EXHIBIT 16

CONFIDENTIAL
INVESTIGATION FINAL REPORT

CASE NO: 2009-005

DATE

August 25, 2009

LOCATION

Atlantis Project
BP America, Inc.
Houston, TX

BUSINESS/FUNCTION

Exploration/Production

SPA FOR INVESTIGATION

Pasha Eatedali
Attorney
BP Ombudsman Employee Concerns Program
1300 Eye Street, NW, Suite 900
Washington, DC 20005
(Office) 202-682-7262
(Cell) 202-340-8408
(Email) pasha.eatedali@ombudsmanecp.com

Billie Garde
Deputy Ombudsman
BP Ombudsman Employee Concerns Program
1300 Eye Street, NW, Suite 900
Washington, DC 20005
(Office) 202-280-6116
(Cell) 202-255-9670
(Email) billie.garde@omudsmanecp.com

Concerned Individual

The concern was raised by Kenneth Abbott, a contract employee, who did not request confidentiality. He is referred to as the CI throughout this report.

Redacted

Drawing and Documentation Issues

As stated above, the CI believes that his termination was the result of **either** the BP management reaction to his handling of the Cavalier complaint or managements' dissatisfaction with his raising concerns about the state of compliance of the PI&D drawings for Atlantis.

The CI asserted to the Office of the Ombudsman that the drawings and documentation for the Atlantis platform were not current, not available on the platform, and that the failure to have them available was a violation of the Subsea Project Execution Plan and various federal legal requirements.[4] He stated that he had advised his management and co-workers of this issue during a contentious meeting in December, 2008. Indeed, the Project Execution Plan, Rev. 3 states, on page 49, Section 6.2 :

> *The BP Lead Engineer for each discipline area will ensure that all technical documentation is updated to reflect the as-built condition of the equipment prior to deployment to the field.* (Exhibit 3)

The CI states, and other witnesses confirm, that the state of documentation for the Atlantis project was a concern for the Atlantis Subsea Team as far back as the fall of 2007 and into 2008. In other words, the issue had been recognized and was the subject of a project even before the CI came to work on the Atlantis project in September, 2008.

An effort was undertaken in December, 2008 to upgrade the attention and expected deliverables from the various engineering departments to organize the documentation to be accessible and retrievable to the platform, working out a new and user-friendly document numbering and management system. These issues were the subject of a continual series of meetings, including one in December, 2008 during which the CI became quite agitated about the issue and his perception that there was a failure to recognize the seriousness of the issue by various engineers and their departments. Witnesses who attended this meeting confirmed that the CI raised the issue with a lot of passion and concern. There is also agreement that there were varying degrees of acceptance and resistance around the table, with some engineers becoming quite annoyed with the CI and other agreeing with him. Project supervisors generally agreed with the CI that the issue was lagging behind schedule and that there needed to be better cooperation by the engineers and commitment to meet the project schedule.

The investigators reviewed the information regarding this documentation update and numbering initiative, interviewed the relevant project personnel, and identified the need for the project to have initiated the MOC process because it did not meet the original project Execution Plan requirements. An MOC, PMOC-GC787-ATL-090016, was issued on April 20, 2009, which reflects the change in handling of the documentation from that originally intended by the Project Execution Plan, and to formalize the current

[4] The BP America VP of Assurance advised the investigator that she has verified that individuals on the Atlantis platform have 24/7 access to the current as-built drawings.

Redacted

Answer: No.

The evidence presented clearly shows that Naseman's intent from his initial interview with the CI to the eventual work release was a term of six months. Swift never advised the CI of the six month term when it signed a two year contract with the CI, or when he was released.

3) Did BP Atlantis and Swift, in collaboration, knowingly mislead the CI into signing a two year contract with Swift, knowing that BP Atlantis's agreement with Swift was only for six months, and that the CI would not accept a six month assignment.

Answer: No as to BP and the allegation of collaboration; yes as to Swift.

While the evidence exists that Swift was aware of the difference between the BP contract and the CI's expectations and sought to clarify it with BP, there is no evidence that there was any collusion to deceive the CI. There does seem to be some knowledge by Fox that there was a dispute about the date, but Fox never provided anything to Swift extending the date. Naseman would have never agreed to such an extension.

As to Swift, the CI stated his desire for a two year agreement to stay in Houston when he first contacted Swift. The email from Walsh to Fox (Martinez) expressed concern regarding the duration of the work release (six months requested by BP Atlantis). The initial Swift contract sent to the CI listed the duration as "TBC" or to be confirmed. Walsh stated that she had spoken to Fox (Martinez) in regards to the duration, worried that the CI would not agree. Though Fox (Martinez) denied the claim, Walsh explained that Fox (Martinez) agreed with the change as long as the termination clause was in place. Once the CI arrived at the Swift offices, the contract duration was changed to 2 years and led to the CI signing the contract.

It is the opinion of the Office of the Ombudsman that it was Swift's duty to alert BP of the fact that they had awarded the CI a two year contract, even though they had only asked for a 6 month work release.

4) Whether there was a violation of regulatory or project requirements with respect to the issue of current P&ID documentation.

The original Project Execution Plan called for all the documents to be accurate, complete and transferred to the Platform when it went operational. That did not happen, and there were no MOC documents that considered the risk presented to the project for the failure to meet that expectation at the time of the investigation.

The project regulatory authority stated that there was no state or federal regulatory requirement reflected in the Project Execution plan, and that the Project was able to change the expectations to reflect the reality of change orders and updated engineering drawings and as-built changes. (Exhibit 35)

Redacted

The Office of the Ombudsman did not investigate beyond these representations, and accepts for the purposes of this report that the Project Personnel will conduct the necessary risk assessment as part of the MOC issued regarding documentation. (Exhibit 36)

Recommendations

The Office of the Ombudsman recommends that BP, under the terms of its contract with Swift, or independently, take appropriate corrective action to remedy the issues identified within this investigation. Specifically we recommend for your consideration the following remedies:

1) BP should insist that Swift Technical provide the proper remediation and resolution to the CI;

2) BP should review its procedures to ensure that contractors are aware of the term of their position with BP, by providing copies of the work release duration information to all contractors who are assigned to work for BP. This will prevent any confusion between the work release requested by BP and the actual agreement between Swift and its contractors.

3) Provide coaching to the BP Procurement staff regarding the anomalies that occurred in this case, to ensure that they are not repeated;

4) Ensure that relevant project staff for the BP Atlantis project, and other organizations as appropriate, have a "lessons learned" training session on the facts of this case to emphasize the importance of appropriately, i.e. timely and effectively, handling employee concerns and contractor performance issues;

5) Share these findings with Swift Technical Services and urge it to resolve the contract dispute with the CI consistent with these findings;

6) Obtain Global S&O review on the BP Atlantis P&ID issues facing the project to ensure it meets BP project expectations and all regulatory requirements.

Redacted

EXHIBIT 17

Congress of the United States
Washington, DC 20515

February 24, 2010

Ms. Elizabeth Birnbaum, Director
Minerals Management Service
Department of the Interior
1849 C Street, N.W.
Washington, DC 20240

Dear Director Birnbaum:

In recent months, we have heard disturbing reports regarding British Petroleum's (BP) Atlantis platform in the Gulf of Mexico. This platform, the largest oil and natural gas platform in the world, may be operating without crucial engineering documents, which, if absent, would increase the risk of a catastrophic accident that would threaten not only the workers on the platform, but also the Gulf of Mexico and the communities who depend on the resources it provides.

In March 2009, a whistleblower notified the Minerals Management Service (MMS) that he believed BP did not have required engineer-approved drawings for BP Atlantis's subsea components. Industry standards and federal regulations require the company to have these documents before any platform can start production. These include "as-built" drawings, which are essentially an operator's guide to how the platform components work from start up to shut down and are critical for operators to have at their disposal.

A review of BP's database in existence at that time and provided by the whistleblower appears to show that of the over 7,176 documents and drawings for Atlantis's subsea components --- a total of 6,393 of them --- over 90% --- may not have been approved by a professional engineer, as required by regulation. BP's own internal communication indicates that using incomplete or inaccurate documents "could lead to catastrophic Operator errors due to their assuming the drawing is correct."

We are also concerned that your interpretation of 30 C.F.R. § 250.903(a)(1), and its application to approval of operations at Atlantis indicates a less than acceptable standard. Specifically, communications between MMS and congressional staff have suggested that while the company by law must maintain "as-built" documents, there is no requirement that such documents be complete or accurate. This statement, if an accurate interpretation of MMS authorities, raises serious concerns.

MMS owes it to all American taxpayers to fully investigate the allegations made related to environmental and safety standards of domestic offshore energy production. The urgency of these allegations is highlighted by the recent oil spill in the Timor Sea that, according to one source, leaked 2000 barrels per day for 10 weeks before it was finally stopped after five attempts by the operator. These accidents are a reminder that even as drilling technology and clean-up methods have improved there is still a considerable risk to the environment, and public health and safety precautions should be taken seriously by both MMS and industry.

PRINTED ON RECYCLED PAPER

Redacted

The MMS has an obligation and a duty to ensure that natural resource extraction from public lands and the outer Continental Shelf is done with the utmost concern for the environment and the health and safety of workers and the public. Making sure that these standards are adhered to will take on added importance as the nation sets its sights on a national agenda of energy independence. It is critical that we get this right.

We urge MMS to conduct a full investigation of whether British Petroleum had a complete and accurate set of required engineering drawings for the BP Atlantis platform and its associated subsea components prior to the start of production from that platform, and to report back to Congress on the results of that investigation as soon as possible. We also request that MMS describe how a regulation that requires offshore operators to maintain certain engineering documents, but does not require that those documents be complete or accurate, is appropriately protective of human health and the environment.

We look forward to hearing from you about this matter.

RAUL M. GRIJALVA
Member of Congress

EDWARD J. MARKEY
Member of Congress

RUSH D. HOLT
Member of Congress

DONNA M. CHRISTENSEN
Member of Congress

MAZIE K. HIRONO
Member of Congress

DENNIS J. KUCINICH
Member of Congress

DONALD M. PAYNE
Member of Congress

CORRINE BROWN
Member of Congress

ERIC MASSA
Member of Congress

SAM FARR
Member of Congress

MICHAEL M. HONDA
Member of Congress

MAXINE WATERS
Member of Congress

Redacted

BARNEY FRANK
Member of Congress

BENNIE G. THOMPSON
Member of Congress

JARED POLIS
Member of Congress

JOHN LEWIS
Member of Congress

LYNN C. WOOLSEY
Member of Congress

BARBARA LEE
Member of Congress

JAMES P. MORAN
Member of Congress

Redacted

EXHIBIT 18

Enclosure No. 2

United States Department of the Interior

MINERALS MANAGEMENT SERVICE
Washington, DC 20240

MAR 26 2010

The Honorable Raúl M. Grijalva
House of Representatives
Washington, D.C. 20515

Dear Representative Grijalva:

Thank you for your letter dated February 24, 2010, cosigned by your colleagues, requesting an investigation of allegations made related to environmental and safety standards for the British Petroleum's Atlantis oil and gas production facility in the Gulf of Mexico. A similar response is being sent to each signer of your letter.

As you requested, the Minerals Management Service (MMS) will conduct a full investigation of this situation. The MMS will complete its report by the end of May 2010. Be assured that MMS takes its safety and environmental responsibility most seriously.

I appreciate your interest in the safety of Outer Continental Shelf oil and gas operations. If you have any further questions, please contact me or Ms. Lyn Herdt, Chief, MMS Office of Congressional Affairs, at (202) 208-3502.

Sincerely,

S. Elizabeth Birnbaum
Director

TAKE PRIDE IN AMERICA

Redacted

EXHIBIT 19

United States Department of the Interior
BUREAU OF OCEAN ENERGY
MANAGEMENT, REGULATION, AND ENFORCEMENT
Gulf of Mexico OCS Region
1201 Elmwood Park Boulevard
New Orleans, Louisiana 70123-2394

In Reply Refer To: MS 5200 July 21, 2010

CERTIFIED MAIL –
RETURN RECEIPT REQUESTED

Mr. Simon P. Todd
BP Exploration and Production Inc.
200 West Lake Park Boulevard
Houston, Texas 77079

Dear Mr. Todd:

On February 24, 2010, members of the United States Congress sent a letter (Enclosure No. 1) to Ms. Elizabeth Birnbaum, Director, Minerals Management Service (MMS) regarding "disturbing reports" that the Atlantis platform "may be operating without crucial engineering documents." On March 26, 2010, Director Birnbaum sent a letter (Enclosure No. 2) to these same members of Congress stating MMS would conduct a full investigation into this matter.

On April 6, 2010, a meeting was held in New Orleans, Louisiana, with BP Exploration and Production Inc. to discuss the document control process for the BP Exploration and Production Inc. *Atlantis Project.* At this meeting it was determined that an MMS investigative team would travel to Houston to audit Atlantis documents.

On April 19, 2010, the MMS team began the process of auditing documents associated with the Atlantis project. On April 20, 2010, the Deepwater Horizon incident occurred; subsequently, our audit team members were redirected to support operations surrounding this tragedy. In May 2010, our team reinitiated the process of auditing these same documents.

Our initial approach has been extremely broad in nature. This approach has given our auditors a clear understanding of the process that BP Exploration and Production Inc. goes through in order to bring a project such as Atlantis on line and the documentation involved in that process.

In order to complete the audit of the required engineering drawings for Atlantis that Congress directed, our team requests the following:

1. A copy (11" x 17") of the "as-built" drawings as required by 30 CFR 250.903(a)(1). These "as-built" drawings should be a complete set of structural drawings as outlined in 30 CFR 250.905(d) and include a certification statement as outlined in 30 CFR 250.905(k). "As-built"

structural drawings should include cathodic protection systems; jacket design; pile foundations; drilling, production, and pipeline/flowline risers and riser tensioning systems; turrets and turret and hull interfaces; mooring and tethering systems; and foundations and anchoring systems as applicable. Each drawing should include the revision history from each phase of the project from design, fabrication, and installation through its current version.

2. A copy (11" x 17") of those drawings associated with BP Exploration and Production Inc.'s August 1, 2005, letter (Enclosure No. 3). This letter certified, as required by 30 CFR 250.802(e)(5), that "the design for the mechanical and electrical systems for the Atlantis semi-submersible production unit, South Green Canyon Block 743, were reviewed and approved by registered professional engineers licensed in the State of Texas." In addition to topsides mechanical and electrical drawings, all drawings of the subsea systems including umbilicals should be provided. Each drawing should include the revision history from the design phase through the current version. BP Exploration and Production Inc. shall also provide a list of all registered professional engineers associated with the above-referenced certification, including contact information.

This letter serves to notify you of our intention to continue our audit of these records at a site of our choice. Once this audit is complete, the Bureau of Ocean Energy Management, Regulation, and Enforcement (BOEM) (formerly MMS) shall return these drawings to your office. The BOEM reserves the right to conduct interviews of your company and contractor personnel, and we will make every effort to minimize the impact on your daily operations.

You are to submit the above-mentioned documentation to the following address within 14 days of the receipt of this letter.

Bureau of Ocean Energy Management, Regulation, and Enforcement
Attention: Mr. Michael J. Saucier (MS 5200)
1201 Elmwood Park Boulevard
New Orleans, Louisiana 70123

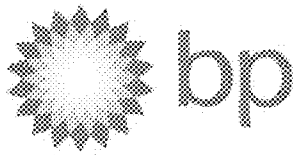
Should you have any questions, please contact Mr. Bryan A. Domangue at (985) 853-5884.

Sincerely,

Michael J. Saucier
Regional Supervisor
Field Operations

Enclosures

EXHIBIT 20



BP Exploration & Production Inc.

200 WestLake Park Boulevard
Houston, Texas 77079-2696
Phone: 281-366-0307

Simon Todd
Vice President, Thunder Horse
Gulf of Mexico

August 9, 2010

Bureau of Ocean Energy Management, Regulation,
and Enforcement
Attention: Mr. Michael J. Saucier (MS 5200)
1201 Elmwood Park Boulevard
New Orleans, Louisiana 70123

Re: Atlantis Platform

Dear Mr. Saucier:

On July 26, 2010, BP Exploration & Production, Inc. ("BP") received your letter dated July 21, 2010, in which the Bureau of Ocean Energy Management, Regulation, and Enforcement ("BOEM") requested copies of engineering drawings pertaining to the Atlantis platform. BP's response is enclosed.

Books 1-6 contain BP's response to your request (No. 1) for copies of structural drawings referenced in 30 C.F.R. § 250.903 and § 250.905. Further, in response to your request and pursuant to 30 C.F.R. § 250.905(k), BP hereby verifies the following with respect to the Atlantis platform:

> The design of this structure has been certified by a recognized classification society, or a registered civil or structural engineer or equivalent, or a naval architect or marine engineer or equivalent, specializing in the design of offshore structures. The certified design and as-built plans and specifications will be on file at BP's offices in Houston, Texas.

Because the Atlantis platform is comprised of several different major components, in making the foregoing certification statement BP relies on the work of multiple engineers, rather than any single engineer.

Books 7-10 contain BP's response to your request (No. 2) for copies of those drawings associated with BP's Production Safety System Application, as well as copies of drawings of the subsea systems including umbilicals.

The table attached to this letter responds to your request for a list of the registered professional engineers associated with BP's certification in its letter dated August 1,

Redacted

2005, concerning the design for the mechanical and electrical systems for the Atlantis semi-submersible production unit.

As BP has done throughout the agency's audit of engineering documents associated with Atlantis, BP has endeavored to respond to your letter as fully and completely as possible based on BP's understanding of the scope and intent of your requests. If upon reviewing this response BOEM determines that BP has not supplied all of the drawings and information that BOEM requires, please let us know and we will supplement this response to the best of our ability. As BOEM reviews BP's response to your letter, please note the following:

(1) Because Atlantis is a semi-submersible platform, some of the types of structural drawings listed in the current platform regulations and identified in your letter (such as structural drawings pertaining to turrets) are categorically inapplicable to Atlantis.

(2) Because the enclosed drawings were prepared by several different engineering firms, the nomenclature used to indicate the revision status of drawings differs among the numerous drawings contained in the enclosed books. For example, drawings by DSME used "Rev. 60" to denote an "as-built" drawing, while "as-built" drawings by FMC Technologies were typically labeled "design" because FMC builds equipment and structures to the design.

If BOEM requires any additional explanation of the enclosed materials, or if BOEM requires BP to supplement the enclosed materials, please let us know.

Sincerely,

Simon P. Todd

Vice President, Thunder Horse

Last Name	First Name	Area of Expertise	Credentials (State, Registration #)	Company (at time of Atlantis design)	Company address	Company phone
Hung	Thomas	Electrical Engineer	Texas, Reg.# 46916	KBR	601 Jefferson, Houston, TX	713-753-7624
Norman	Dave	Electrical Engineer	UK, Chartered Engineer	BP	801 Jefferson, Houston, TX	713-753-8184
Amin	Henry	Lead Mechanical Engineer	Texas #53795	Mustang	16001 Park Ten Place, Houston, TX 77084	713-215-8000
Andersen	David	Mechanical Engineer	Texas, Reg.# 91479	KBR	601 Jefferson, Houston, TX	713-753-5423
Barton	David	Structural Engineer	Texas, Reg.# 78770	KBR	601 Jefferson, Houston, TX	713-753-5644
Behari	Sam	Process Engineer	Texas #78420	Mustang	16001 Park Ten Place, Houston, TX 77084	713-215-8000
Butler	Myles	Mechanical Engineer	NF, Canada Reg.# 01825	KBR	801 Jefferson, Houston, TX	713-753-2069
Churchal	William	Project Manager	Texas #85602	Mustang	16001 Park Ten Place, Houston, TX 77084	713-215-8000
Comeaux	Ken	Electrical Engineering	Louisiana #0023284	Mustang	16001 Park Ten Place, Houston, TX 77084	713-215-8000
Desai	Mike	Mechanical Engineer	Texas, Reg.# 49859	KBR	601 Jefferson, Houston, TX	713-753-7403
Ellis	John	Upstream Coordinator/Civil/Struct/Marine PL Engineering	Texas #51872	Mustang	16001 Park Ten Place, Houston, TX 77084	713-215-8000
Farris	Mark	Equipment Engineering	Texas #80118	Mustang	16001 Park Ten Place, Houston, TX 77084	713-215-8000
Gephart	Joe	Piping Engineer	Texas #76632	Mustang	16001 Park Ten Place, Houston, TX 77084	713-215-8000
Gilliam	William (Ken)	Control Systems Engineer	Texas, Reg.# 80120	KBR	Houston, TX	713-215-8000
Hart	Jerry	Topsides Interface Coordinator	Texas #36323	Mustang	16001 Park Ten Place, Houston, TX 77084	713-215-8000
Holmes	Mike	Upstream Process Engineering	Texas #41121	Mustang	16001 Park Ten Place, Houston, TX 77084	713-215-8000
Knowles	Steve	Upstream Sector Manager	Texas #72991	Mustang	16001 Park Ten Place, Houston, TX 77084	713-215-8000
Lake	Jeff	Mechanical Facilities Engineering	Texas #61818	Mustang	16001 Park Ten Place, Houston, TX 77084	713-215-8000
MacFarlane	James	Korean Site Construction Mgr.	Alberta, Canada Reg.# 39706	BP Consultant	Unknown	281 222 0077
Pathar	Arun (A.K.)	Process Engineer	Texas, Reg.# 92095	KBR	Houston, TX	281-838-3500
Peters	Walt	Mechanical Engineer	Texas #46505	Mustang	16001 Park Ten Place, Houston, TX 77084	713-215-8000
Phillips	Ralph	Project Engineer	Texas #53702	Mustang	16001 Park Ten Place, Houston, TX 77084	713-215-8000
Redmon	Paul	President	Texas #56485	Mustang	No Longer employed by Mustang	
Rivas	Gonzalo	Instrument Engineer	Texas #1028825	Mustang	16001 Park Ten Place, Houston, TX 77084	713-215-8000
Robinett	Bernie	Mechanical Engineer	Texas #56614	Mustang	16001 Park Ten Place, Houston, TX 77084	713-215-8000
Robson	Robert	Piping Stress Engineer	Texas, Reg.# 46277	KBR	601 Jefferson, Houston, TX	713-753-7105
Sanders	Joe	Shared Engineering	Texas #49245	Mustang	16001 Park Ten Place, Houston, TX 77084	713-215-8000
Sengupta	Aparajita	HVAC Engineer	Texas, Reg.# 49833	KBR	Houston, TX	713 892 0999
Shirley	Richard	Upstream Project Engineer Manager	Texas #56203	Mustang	16001 Park Ten Place, Houston, TX 77084	713-215-8000
Smith	Sam	Rotating Eqpt. Engineer	Texas #72670	Mustang	16001 Park Ten Place, Houston, TX 77084	713-215-8000
Voltz	Don	Electrical Engineer	Alaska AEL E 9828	Mustang	No Longer employed by Mustang	
Westbrook	Dick	Upstream Project Director	Texas #54247	Mustang	16001 Park Ten Place, Houston, TX 77084	713-215-8000

Redacted

EXHIBIT 21

IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF TEXAS
HOUSTON DIVISION

UNITED STATES OF AMERICA EX REL. KENNETH W. ABBOT; KENNETH W. ABBOT, INDIVIDUALLY; AND FOOD & WATER WATCH, INC.	:	
Plaintiffs,	:	
VS.	:	CIVIL ACTION NO. 4:09-CV-01193
BP EXPLORATION & PRODUCTION, INC., ET AL.	:	

****

ORAL AND VIDEOTAPED DEPOSITION OF
DENNIS SUSTALA
SEPTEMBER 19, 2011

****

ORAL AND VIDEOTAPED DEPOSITION of DENNIS SUSTALA, produced as a witness at the instance of the Plaintiffs, and duly sworn, was taken in the above-styled and numbered cause on September 19, 2011, from 9:07 a.m. to 5:11 p.m., before PHYLLIS WALTZ, CSR, TCRR, RPR, CRR, in and for the State of Texas, recorded by machine shorthand, at the offices of Fulbright & Jaworski, L.L.P., 1301 McKinney, Suite 5100, Houston, Texas, pursuant to the Federal Rules of Civil Procedure and the provisions stated on the record or attached hereto; that the deposition shall be read and signed

asking for those types of drawings using the current regulation reference. They -- they're not using the regulatory reference that the platform was designed under, which was a 2002 version of the regulations.

10:34 Q. Yes. And, now, one thing I want to get clear on the record is that BP's position and the position that you have enunciated on behalf of BP is that the regulations that actually apply to the Atlantis platform are those that were in effect when the application was 10:34 submitted in 2002; is that correct?

A. It was the regulations that were submitted -- I'm sorry, it's the reg -- the regulation that were in effect in 2002-'3 time frame is what the platform was designed under, and it is under those regulations that 10:35 the application and the platform verification plan and the CBA nomination was approved under, and that is the regulations which we are obligated to follow, yes.

Q. Now, as a matter of history, you are aware that the MMS made a substantial amendment and rewrite of 10:35 its regulations of -- by posting a final -- a notice of its final rule-making action in the Federal Register in the middle of 2005, right?

A. I believe you are referring to the fact that the MMS issued new regulations and I believe they came 10:36 effective in August of 2005, which was a rewrite and new

A. Yes, it does talk about registered professional structural engineers or civil engineers, that's correct.

Q. And as is the habit of federal agencies, the sentences are long and have lots of words in them, right?

A. Boy, I'll say.

Q. But if we try to make this more readily intelligible, this requires that the lessee shall have detailed structural plans certified by these engineers --

A. That's correct.

Q. -- isn't that right? And then there -- you know, there's all the ifs, ands, and other verbiage. But the gist of the first sentence is to require that the lessee have detailed structural plans certified by certain engineers, correct?

A. That's correct. You're correct, uh-huh.

Q. And the engineers could either be registered professional structural engineer or civil engineer specializing in structural design, right?

A. That is correct. Sorry.

Q. And then --

A. Then we get to the good sentence I read there.

Q. Yes, in addition to having the plans

certified, then the part that's highlighted requires that the lessee sign, date, and submit the lessee's certification that the lessee certifies that the structure has been certified by the engineers, right?

11:07 A. Certifies that the design has been certified by the engineers, that's correct.

Q. Yes. In other words, it's like a double certification. First, the lessee has to have the design certified by the engineers, correct?

11:07 A. That's correct.

Q. And then the lessee has to certified itself to MMS that it has had the design certified by the engineers, right?

A. Yes, that's -- as -- as read from the

11:08 regulations, that's correct, uh-huh, this section.

Q. And then -- then the lessee has to go further and certify that they also will be sure that the structure itself is fabricated and installed and maintained as described in the application and any

11:08 approved modifications, all right?

A. Yes.

Q. And then they have to go further and certify that the certified design and as-built plans will be on file at a certain place, right?

11:08 A. Yes, certified design and the as-built plans

and specifications will be on file, that's correct, uh-huh.

Q. Yeah. Okay. Now, Dr. Todd's letter, which is in front of you, Discovery Exhibit 69, has a paragraph in it on the first page that's indented that is a certification in certification language, right?

A. Yes, uh-huh.

Q. That certification language is taken out of the 2010 regulations, isn't it?

A. That's correct.

Q. And the verbiage is a little different than the '02 regulation, right?

A. Yes, that's true.

Q. Did BP ever sign, date, and submit a certification using the verbiage in the '02 regulation?

A. We -- as per the application, we sent in a certification statement which was modified by the February approval from the -- from the government statement, which was a new statement that reconciled the issue having to do with GVA, which was a -- a country that was located outside the boundaries of the U.S., correct.

Q. Okay. Wait just a minute, you're kind of getting ahead of me here. I'm -- I'm going to get to that.

A. Okay.

Q. I'm going to get to that. But for right now I'm just focusing on one --

A. One iota, all right.

11:10 Q. One iota, what I would call a factoid.

A. All right.

Q. Did BP ever sign, date and submit a certification in the language set out in 30 CFR 250.109(d) 2002 version which is quoted in Exhibit 260? 11:11 Did BP ever sign, date, and submit a certification in that language?

MR. NESSER: Using that language?

MR. PERRY: Using that language.

A. Yes, we -- we submitted a statement -- I -- I 11:11 don't know that I compared it word for word, but it was a -- it was the intent to submit that statement with the original application.

Q. (BY MR. PERRY) Okay. So you had a statement in the original application?

11:11 A. That is correct.

MR. PERRY: Have we got that, Shanna?

Well, it's that Page 9 that I had pulled it out, and we made a separate statement of it.

MS. WILSON: Okay.

11:11 MR. PERRY: Do you remember that? No.

Did I read that correctly?

A. You did.

Q. And then the -- Mr. Howard writes, "The request is granted."

11:48 Now, my question to you is this: As we sit here today does BP claim that that departure also covered any work done by DSME in Korea?

A. DSME was not the design company, so --

Q. Not my question.

11:48 A. I know. I was getting to -- to the heart of the matter. I'm a little long-winded. But DSME was not recognized as the design engineering firm, so it was not our intent to cover them under this -- this statement, because they were not recognized as a -- as a design -- 11:49 preparing the design records.

Q. So does BP agree now that the deviation granted with respect to the language of the certification and who the new language applied to was limited to GVA work done in Sweden?

11:49 A. For the whole portion. Obviously, the topsides was completed by Mustang Engineering, which did have the credentials and which we could support through -- through documentation.

Q. Well, after -- after the deviation was granted 11:50 you had the folks in Sweden and they had the -- the new

information, MMS granted the deviation that we have discussed, right?

A. That's correct.

Q. Okay. Now, there's these folks at DSME, and DSME is a -- an abbreviation for the name of a company, the actual name is Daewoo -- I don't remember the other words, but it's -- they're conveniently talked about in much of your internal literature as DSME, correct?

A. That's correct. They're marine construction structural. I don't know their full name, either. I've forgotten. But they basically are known as shipbuilders, and they have a shipyard where they build facilities.

Q. Let me hand you -- well, let -- let me ask you this before I do this: What I'm understanding you to say is that DSME was going to do construction work; they were not going to do design work; is that right?

A. They were not going to do the pri- -- primary design work, the essential design work, that's correct.

Q. Let me hand you Discovery Exhibit No. 262.

MR. PERRY: And I have a copy for counsel.

MR. NESSER: Thank you.

Q. (BY MR. PERRY) And I'm not sure that those little yellow stickies on there are at exactly the pages I'm going to look for. Let me start out by asking you

Q. -- do you know what equipment they're referring to?

A. No, it's very -- very technical, and it's something that I heard in terms. I know there is 12:12 equipment, I know there is data review of that vendor equipment by surveyors and such, but that's the ABS -- one of those mysteries of the ABS that I'm not fully comprehending at this point. It's been -- it's been too long. I may have known it better before.

12:13 Q. So there is going to be some equipment furnished by the owner, some equipment furnished by the builder, that equipment will have data that goes with it, and part of their job is to incorporate the data into the design so that the fabricated hull can receive 12:13 the equipment properly; would that be a fair summary?

A. I would say that's a fair statement, per my knowledge. Again, this is a little bit more beyond my normal under- -- you know, involvement with the process.

Q. Okay. Now, was there any concern at BP about 12:13 certification or needing to certify or potentially needing to certify or whether you need to certify the design work that was going to be done by DSME?

A. Yes.

Q. Now, part of this discussion has to do with 12:14 the phrase registered professional engineer. And, first

of all, people -- we've already talked about the people in Sweden. But the -- the folks in Korea also -- at that time at least Korea had no system of professional or licensed engineering comparable to the United States; is that right?

12:14

A. I -- I would say that's correct because they're, again, outside the boundaries of the U.S., so they couldn't have been, had a -- a P.E. program that was acceptable to the U.S.

12:14

Q. Well, I think, actually, that -- are you aware that it -- there are international agreements where various countries have similar programs and they certify themselves through an international body and end up having, in effect, reciprocal licenses through these

12:15

international agreements?

A. Yes, and those are very limited, I understand.

Q. And I think that Korea may now be a member of that, I'm not sure, or maybe they're becoming a member. But, at any rate, back at this time Korea did not have

12:15

anything --

A. Didn't have a program in place.

Q. That would fit in that system?

A. That's quite possibly true.

Q. Now, you're aware that the general rule in the

12:15

United States, I think in all 50 states, is that

I -- I can -- do I understand your question right?

Q. Yeah.

A. Well, obviously, we could not have GVA stamp them because they were not jurisdictional.

01:30 Q. Uh-huh.

A. The only reason I can think of is you might not have drawings stamped, because the regulations don't require to have them stamped. I -- I'm not real sure beyond that why -- why you might not do it. You would -- another reason you would not have somebody else stamp it who had no -- or is not part of the design process and another legal reason of that -- that nature. So I'm supposing that's the reasons.

Q. Okay. So you couldn't have GVA stamp them because they were not registered professional engineers and you got an exemption?

A. That's correct.

Q. You couldn't have DSME stamp them because they were not registered professional engineers?

01:31 MR. NESSER: Objection; form.

A. No. DSME, we -- we considered whether they should be included as part of an exemption and decided they did not need to be included in any type of special exemption request.

01:31 Q. (BY MR. PERRY) Exempt, or not exempt, they

couldn't stamp them because they were not registered professional engineers, right?

A. That's true.

Q. But if you were having work done by people who were registered professional engineers, is there any reason that you would decide against having them stamped?

A. No, other than if it's not required, you wouldn't -- you wouldn't necessarily have to have them stamped.

Q. Well, on the -- under subpart i it's required that the engineer certify the work. Now, how does the engineer certify the work other than by stamping?

A. I -- I don't know other than perhaps he could write a letter or he could show by his signature on the drawing that -- that he had done that work, or there could be some type of process established to show that he was involved in the -- certifying that design.

Q. Well, for example, then, one of the companies that was involved in the design covered by subpart i was KBR, and KBR's drawings are not stamped. Do you have a letter in your file from KBR saying that their work was done by registered professional engineers and that they certify under the provisions of subpart i da, da, da, da, da, da, in an official way?

company to -- to review the work that was done by G -- GVA and for them to provide a registration stamp.

Q. Now, you didn't -- turned out, you didn't need to do that for GVA because you got the exemption, right?

01:41 A. Well, that was -- that was how -- that was the solution that we came to, with the government's approval, yes.

Q. Now, you also talked about at different times getting ABS to certify the drawings, didn't you?

01:41 A. Yes, we did, but we -- there were problems with that one, also.

Q. Did --

A. That solution.

Q. Did ABS -- was ABS willing to certify the

01:41 drawings?

A. ABS had a separate part of their company that acted as an engineering firm. However, I believe the discussion had -- conclusion of the discussion was that we saw that as a conflict of interest to have the same

01:42 company that approves the -- approves through the CBA process the activities going on and have a separate part of that same company to -- to approve the drawings, that the -- that the same company would be approving it in another area. So we saw that as too much conflict of

01:42 interest. So that was not a reasonable solution to

these old regulations.

Q. At any point did you ask ABS to give you a price or a bid --

A. Yes, we did.

01:42 Q. -- for approving the drawings?

A. As an initial step, in case we decided to go in that direction, we asked them to provide us with an estimate of how much that would cost to do that; but, again, we decided that would be a conflict of interest

01:42 and would not serve us to have a pure review by C -- by ABS.

Q. And did they send you an estimate?

A. I never received it directly, so I don't -- I don't know. It may have gone to somebody else who was

01:43 looking at that in the engineering group.

Q. Did you get -- did -- did BP get any estimates from anybody as to what it would cost to certify either the GVA drawings or the DSME drawings?

A. I never received any, and I don't know if

01:43 anybody else did, though.

Q. Is it true that no one at BP ever actually received an estimate, so far as you have heard?

A. I have not heard if they -- if we ever received the estimate.

01:43 Q. But you did --

A. Stamps in general or -- or about DSME?

Q. Well, I was going to ask you that next.

A. Oh, okay.

Q. But you had some communication with her about stamps, right?

A. I may have. I -- I don't remember the specific wording in every e-mail, but I did have some communication about DSME and I may have had some conversation about stamps.

Q. I know that one of the -- I know -- I -- I know from reading what I've read that one of the things under consideration was to ask MMS for an exemption similar to the one that had been obtained for GVA, right?

A. I believe Thunder Horse was considering that, also, yes.

Q. Yeah, you and Thunder Horse -- well, No. 1, you and Atlantis were considering that, right?

A. Well, I -- I was with Atlantis, I was, and Ann Rene with Thunder Horse was also, you're correct, yes.

Q. Okay. Now, I know from what I have read that you and the folks on Atlantis decided not to request an exemption for DSME?

A. That's -- that's correct.

Q. Did Thunder Horse request an exemption for

that's the answer you're looking for; is that right?

Q. Now, Kinnaman was concerned that to try to get the same kind of an exemption for DSME was going to involve a lot more people, a lot more work to find the information, would be a major exercise, would require a substantial project, in effect, in and of itself. Was that a concern that Kinnaman expressed to you?

A. Reading this e-mail, he did express some concerns about how do we do this. His challenge was, as I read these e-mails and it's been awhile, but my understanding, I asked him to provide the GVA -- I mean, the DSME information, in case we decided to move forward with it, and he was -- what I basically see as, hey, wait a minute, this is a lot of work, do you really want this information?

And my letter to him on March the 24th, I was saying I had worked with the ABS manager and she had assured me that the documents that would be reviewed would only be the -- the GVA type documents, that their -- part of their GVA review has agreed to with the government would only involve the GVA and not the DSME. So -- but I told him just in case, why don't you get that stuff for me just in case we decide that this is not the right approach and we go another way. But at the time I was telling him it looked like what we had

done was the right thing to do.

Q. And so ultimately in March of '04 the company decided to not seek a waiver for DSME, right?

A. That's true.

02:04 Q. And at the same time the decision was made -- well, one of the problems was with possibly seeking a waiver, if you ask for a waiver officially and didn't get it, then you would kind of be stuck with having told MMS that DSME was doing engineering work, but they

02:05 weren't registered professional engineers and if you didn't get the waiver, then what would you do; that was a practical problem, wasn't it?

A. I don't remember that at all. I think that's --

02:05 Q. Well, I don't know what your memory is, but the fact is that it's obvious to anybody that it's a practical problem to --

A. I don't think it --

MR. NESSER: Wait, wait, wait, let him

02:06 finish the question.

MR. PERRY: Wait, let me finish my question.

Q. (BY MR. PERRY) It's obvious to anybody that if you were al- -- if the company was already committed

02:06 to use DSME and they're not professional engineers and

you asked for a waiver and didn't get them, the company would kind of be out on a limb, right?

MR. NESSER: Objection; form.

A. Well, I don't know that's obvious to everybody. I think it's obvious to me that if the MMS understood the first problem, they would understand the second problem. If we felt like it was a requirement that needed to be done. But the CBA who was working with the MMS said we did not need to go to the level of the DSME level drawings; we needed only to work with the GVA drawings. That's what she would certify in her verification process was done, according to the MMS regulations. So I don't agree with your statement.

Q. (BY MR. PERRY) Now, another thing is that ABS very directly told you, told you personally and the company that its work would not substitute for the certification of the drawings or would not count as a certification of the drawings, didn't it?

A. Yes, we -- we understood that. We did explore that. Does the verification process take the place of a certification process. And we came -- we were clearly -- it was clearly defined that there are two different processes, we agree with that statement, yes.

Q. So the company's ultimate decision was, No. 1, not to seek a waiver for DSME, right?

A. It was -- that's correct, we -- we made a -- a logical decision that we did not need to apply a second time to exclude -- to include DSME under the exemption, like we had done for GVA, or we would have done it. It would have not have been a -- as difficult a situation as you're maybe implying. It's -- it was a -- it was a well thought out decision. It was a well -- bounced off people who knew, and that's what we did.

Q. And you-all made the decision not to seek a waiver after you had satisfied yourselves that the drawings that DSME made that would not be stamped because they weren't registered engineers would not be going to MMS; did you not?

MR. NESSER: Object -- objection to form.

A. We decided that the -- again, talking with the CBA who would be doing the work, that the design as it -- as it's defined by the CBA and by the regulations of the MMS would be only those drawings and those designs that were prepared by GVA.

Q. (BY MR. PERRY) Okay.

A. Yeah.

Q. So ABS was going to look only at the drawings prepared by GV -- by GVA, therefore they wouldn't have to look at the DSME drawings, therefore they wouldn't have to send the DSME drawings to MMS, therefore MMS

would not know that you were working with engineers in Korea who were not registered professional engineers, true?

MR. NESSER: Objection to form.

02:09 A. Well, no, I -- I think we probably mentioned somewhere in some document that we were going to use DSME to do the construction. So we weren't hiding anything that -- that the DSME wouldn't be involved. Again, because the CBA agent is the one that interfaces 02:10 with the government, we took it from their direction that this is all the government was requiring us to do, and that was the -- to provide the information for MMS for GVA.

The ABS also looked at drawings of DSME for 02:10 other processes, but as far as what they would verify to the MMS, it was based on the GVA set of information.

Q. (BY MR. PERRY) Now, how many GVA drawings were there for ABS to look at?

A. You mean, looking for a number?

02:11 Q. Yeah.

A. I don't know.

Q. We have made a little bit of an inventory of these books of drawings and I'm going to share this inventory with you. I marked it as Discovery 02:11 Exhibit 266.

familiar with that?

A. No, I'm not that familiar with the engineering coding processes. I know they have processes and coding standards, but that's more of an engineering understanding than what -- what I would normally work with.

Q. Of the drawings for the hull columns and bracing and for the hull in general there is on the order of 125 drawings, of which all but six are prepared by DSME. For the hull pontoons there is about 150 drawings, of which all of them are prepared by DSME. For the upper hull itself there is over 150 drawings, of which all of them are prepared by DSME. For the frame of the helideck that supports the aircraft that land there is 12 drawings, of which all are prepared by DSME. And then there is another -- I'm sorry, that's for the frame of the helideck, and then the helideck itself is 26 major drawings, of which all are prepared by DSME.

Did anybody at BP ever send information to MMS through you that the detail drawing, the fast majority of the detail drawing was being prepared by people, No. 1, who are not registered professional engineers?

A. Please repeat that question. I was -- I was trying to follow, but I lost a little bit.

Q. The people -- the people at DSME are not

registered professional engineers, right?

A. That is correct.

Q. And they did, according to looking at the drawings, the very vast majority of the drawings for the load-bearing structure on the order of, like, 95 percent. And my question is did anybody at BP ever tell you to pass the information on to MMS?

A. Well, I -- I'm going to have to assume what you're saying is right and --

Q. Yes, you -- I understand you're, working based on assuming that my -- my numbers are in the ballpark.

A. Okay. And my answer is no one asked me to pass that on to MMS, that is the answer, yes.

Q. Is BP totally comfortable having this rig out in the Gulf, knowing that of all of the structural drawings that it has submitted now under compulsion to the agency about 98 percent of them were prepared by people who absolutely, beyond any question, are not registered professional engineers?

A. Well, first of all, we were not under a compulsion in the sense -- that word has a kind of strong meaning, in my ears. We were asked by the government to provide all drawings that we had of a certain nature. We pro- -- in good faith provided that information to them, per their request to satisfy their

A. No, I'm not familiar with those details.

Q. (BY MR. PERRY) Well, I'll just provide that information to you. And, again, you haven't heard or been told that BP has done any inventory of it's own to
02:47 determine what the story would be on it?

A. Well, I haven't and I don't know if anybody else has.

Q. Well, we have here a situation where -- now, No. 1, I think we can all agree that DSME, by definition
02:48 those folks are not registered professional engineers, right?

A. No, they -- they could not be professional registered engineers, that's a correct statement.

Q. No. 2, assuming our count is remotely correct,
02:48 on the order to 9 -- 95 to 98 percent of all the drawings on the hull were prepared by these non-registered professional engineers and they were charged with turned those into as-built drawings, which didn't happen, so that the drawings for the hull, 95 to
02:48 98 percent of them are not certified and they are not as-built. Do you follow what I'm saying?

MR. NESSER: Objection to form.

A. That's what you've determined.

Q. (BY MR. PERRY) And if our inventory -- if our
02:49 inventory is correct, the conclusion is correct, isn't

but item No. 1 he has the heading, "BP Standard For As Built Drawings."

A. Yes.

Q. Why don't you just read that over. Just read the -- there's two paragraphs there. Just read them over to yourself for a minute.

A. Uh-huh. Okay. So you wanted me to read this first set of two paragraphs under item 1, is that correct?

Q. Yes sir. Are you finished?

A. I've read through those, yes.

Q. Is there any reference there to a BP internal standard or specification or any quotation from a standard or a specification?

A. No, I -- I don't -- I'm not seeing that. I -- I see it -- it just says BP considers as-built as this.

Q. Yeah. Now, in your dealing with this issue did you ever come to know whether BP does have a standard or a specification that defines as-built drawings?

A. No, I -- I -- I haven't done investigation into that area.

Q. Well, surely, you would agree that if BP does have a standard or a specification that defines as-built drawings, it would have been appropriate to give that

interpretation is that we certify that professional engineers certified the design of these two systems for the project, but other than that we don't see any other decision to be made.

04:12 Q. Your answer was there was no decision about stamping. Well, okay. Nobody made a decision. So let me ask you this: When these drawings showed up in your files, did they have stamps on them or not?

A. When these drawings were -- showed up to me to 04:13 submit to the government; is that what you're asking me? When you say showed up in your files --

Q. When the drawings appeared for you to submit or wherever they appeared, were they stamped or not stamped?

04:13 A. I do not believe that the drawings that I received had stamps on them.

Q. You didn't have anybody take the stamps off?

A. No, no.

Q. There were not any stamps to be taken off, 04:13 right?

A. I believe that's a correct statement, yes. They were -- they were not stamped drawings because I don't believe that we -- we determined any need for any stamping. If there was a need or requirement, we would 04:13 have fulfilled those requirements, but we do not see

THE STATE OF TEXAS :
COUNTY OF HARRIS :

I, PHYLLIS WALTZ, a Certified Shorthand Reporter, Texas Certified Realtime Reporter, Registered Professional Reporter, and Certified Realtime Reporter in and for the State of Texas, do hereby certify that the facts as stated by me in the caption hereto are true; that the above and foregoing answers of the witness, DENNIS SUSTALA, to the interrogatories as indicated were made before me by the said witness after being first duly sworn to testify the truth, and same were reduced to typewriting under my direction; that the above and foregoing deposition as set forth in typewriting is a full, true, and correct transcript of the proceedings had at the time of taking of said deposition.

I further certify that I am not, in any capacity, a regular employee of the party in whose behalf this deposition is taken, nor in the regular employ of his attorney; and I certify that I am not interested in the cause, nor of kin or counsel to either of the parties.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, on this, the 19TH day of SEPTEMBER, 2011.

PHYLLIS WALTZ, RPR, CRR
TEXAS CSR NO. 6813
Expiration Date: 12/31/11
LOUISIANA CCR NO. 2011010
Expiration Date: 12/31/11

Worldwide Court Reporters, Inc.
Firm Certification No. 223
3000 Weslayan, Suite 235
Houston, Texas 77027
(713) 572-2000

EXHIBIT 22

United States Department of the Interior

MINERALS MANAGEMENT SERVICE
Gulf of Mexico OCS Region
1201 Elmwood Park Boulevard
New Orleans, Louisiana 70123-2394

In Reply Refer To: MS 5210

December 12, 2002

Mr. Dennis Sustala
BP Exploration & Production, Inc.
502 Westlake Park Blvd., Room 20.106
Houston, Texas 77079

Dear Mr. Sustala:

By letters dated September 17 and December 9, 2002, you submitted to this office the Design, Fabrication, and Installation Verification Plans for Platform A(Atlantis), Bottom Hole Location Lease OCS-G 15607, Block 743, Green Canyon Area. The surface location is in GC 787 (RUE number is to be issued). You nominated ABS, Americas as your Certified Verification Agent (CVA). In accordance with 30 CFR 250.900(b) and (c), the submitted plans and nominated CVA are hereby approved.

Sincerely,

for: Donald C. Howard
Regional Supervisor
Field Operations

Redacted

EXHIBIT 23

bp

January 27, 2003

Mr. Don Howard
Regional Supervisor
Office of Field Operations
U.S. Department of the Interior
Minerals Management Service
1201 Elmwood Park Boulevard
New Orleans, LA 70123-2394

Attn: Mr. Tommy Laurendine

Re: Request for Departure / Alternate Compliance - 30 CFR 250.901(d)
GC 787, Platform A (RUE to be issued)
BHL: GC 743, OCS-G 15607

Dear Mr. Howard:

BP Exploration & Production, Inc. requests a departure from 30 CFR 250.901(d) requiring certification by a registered professional engineer for the design work performed in Sweden by GVA Consultants AB, (GVA-C), for Platform A, bottom-hole location Lease OCS-G 15607, Block 743, Green Canyon Area. The platform surface location will be in Green Canyon Block 787, (RUE number to be issued). GVA-C is the engineering firm chosen to design the Atlantis semi-submersible platform hull. On December 12, 2002, the MMS approved the Design, Fabrication, and Installation Verification Plans for Platform A as well as the nomination of ABS, Americas as the project Certified Verification Agent (CVA).

Regulatory Background

The regulations found in 30 CFR 250.901(d) require that certain detailed structural plans and specifications for new platforms be certified by a registered professional structural engineer or civil engineer specializing in structural design. In addition, the lessee is required to sign, date, and submit the following certification statement:

> "Lessee certifies that the design of the structure/modification has been certified by a registered professional structural or a civil engineer specializing in structural design, and the structure/modification will be fabricated, installed, and maintained as described in the application and any approved modification thereto. Certified design and as-built plans and specifications will be on file at_____."

Detailed Departure Request:

BP specifically requests the following departures and alternate compliance methods:

- We request that GVA-C, as a foreign engineering firm, be exempted from jurisdictional-specific engineering licensing / registration and related design certification requirements.

- We propose that the MMS accept the following alternate certification statement for all design work completed by GVA-C:

  "Lessee certifies that the design of the structure/modification has been prepared by or under the direct supervision of professional structural, civil, or marine engineers; and/or naval architects specializing in structural design, and that the structure/modification will be fabricated, installed, and maintained as described in the application and any approved modification thereto. All design, and as-built plans and specifications will be on file at BP Exploration & Production Inc. in Houston, Texas."

Justification for Departure/ Alternate Compliance Requests

All American States have laws regulating the practice of professions including law, medicine, and engineering. These laws are designed to protect the public health, safety, and welfare by ensuring that those receiving licenses to practice have at least met certain requirements of education, competence, experience, and character.

Licensure laws vary from state to state and are exclusively under the control of the individual state legislatures. Generally the licensure laws for professional engineers require citizenship of the jurisdiction issuing the license, graduation from an accredited engineering curriculum followed by approximately four to eight years of responsible engineering experience under the direction of an experienced licensed engineer, and either passage of a written exam or a combination of sufficient education and experience (12-16 years) to allow the licensing board to waive the examination procedure.

Licensing generally does not prevent an individual from practicing the profession of engineering, although those individuals that are not licensed as engineers must generally practice engineering under the supervision of registered engineers.

Many foreign countries do not regulate the practice of the engineering profession in this exact manner. GVA-C is located in Sweden which does not have a registration and licensing program comparable to those found in the U.S.

However, GVA-C, an internationally recognized firm, has assigned individuals to design the Atlantis project that have sufficient educational training and industry experience that would qualify them for licensing and registration if they were citizens of the U.S.

Description of GVA-Consultants

GVA Consultants AB, (GVA-C), is an independent marine design and engineering consultancy company whose main business is in support of the offshore oil industry. The company is located in Göteborg, Sweden.

The company specializes in the design of semi-submersible vessels for various applications, i.e. drilling, floating production, accommodation, etc. GVA-C is the number one designer of purpose-built semi-submersible production units, producing more than any other company.

At the end of 2002, there were 19 GVA-designed semi-submersibles in operation or under construction. Three-out-of-five floating production semi-submersibles under construction world-wide are of GVA design including the BP-Thunder Horse and BP-Atlantis semi-submersibles. Their background as a shipyard and continued involvement in construction/ conversion of semi-submersibles has resulted in a significant number of employees with hands-on experience.

GVA-C Personnel Educational and Experience Backgrounds

The education requirements for an individual training to be an engineer or naval architect in Sweden is similar to the education received by a college student in America. An engineering degree or other technical degree may be earned at the bachelors, masters or doctorate levels. Training is rigorous and includes heavy emphasis on math and science courses, specific engineering and technical courses, and practical on-the-job or project experiences.

GVA-C structural engineering design, plans, and drawings for the Atlantis Project are prepared in Sweden under direction of a Structural Area Manager who reports directly to the GVA-C Atlantis PQ Project Engineering Manager. The Structural Area Manger directs the efforts of six lead engineers.

The six lead engineers assigned by GVA Consultants to the Atlantis project have an average of about 18 years of work experience. The GVA-C Project Engineering Manager, Area Structural Area Manager and majority of the lead engineers on this project have Masters of Science degrees in either Civil Engineering, Naval Architecture, or a combination Masters degree in Naval Architecture and Marine Engineering. One of the two remaining lead engineers has a Bachelor of Science in Civil Engineering and 30 years experience and the other engineer has extensive training as a Naval Technician and 14 years of experience.

Previous Departure Approvals

The MMS has previously granted approvals for departures from formal PE requirements for other GOM projects including those for the Horn Mountain Project in 2001, and the Thunder Horse Project in late 2002. The Horn Mountain Spar was design by an engineering firm in Finland and the Thunder Horse Semi-Submersible, like the Atlantis structure, was designed by GVA-C in Sweden.

Attachments

The following attachments have been included for your review:

Attachment A:
History of GVA-C

Attachment B:
Organization Chart of GVA-C Structural Engineering, Atlantis Project

Attachment C:
Curriculum Vitae of GVA-C Structural Engineering Management

Mr. Magnus Malo – Area Manager
Mr. Fedrik Christborn – Atlantis Project Engineering Manager
Mr. Bertil Hardmark – Structural Supervisor

Attachment D:

GVA-C Atlantis Structural Design Team – Experience / Formal Education

If you have any questions concerning this request, I my be reached at 281 366 0898, or at sustaldr@bp.com.

Sincerely,

Dennis Sustala
Regulatory Compliance Manger, Atlantis Project
BP Exploration & Production Inc
501 West Lake Blvd
Room 12.164 WL 1
Houston, Texas 77079

CC: Steve Homer – B2009 NW (MELP)
Karl-Gustav Jansson – B2010 NW (MELP)
MU 787, Platform A – Structure Application File

EXHIBIT 24

United States Department of the Interior

MINERALS MANAGEMENT SERVICE
Gulf of Mexico OCS Region
1201 Elmwood Park Boulevard
New Orleans, Louisiana 70123-2394

In Reply Refer To: MS 5210

February 25, 2003

Mr. Dennis Sustala
BP Exploration & Production, Inc.
502 West Lake Park Blvd., Room 12.164 WL 1
Houston, Texas 77079

Dear Mr. Sustala:

By letter dated January 27, 2003, you submitted to this office a request to depart from 30 CFR 250.901(d) requiring certification by a registered professional structural engineer for the design work performed in Sweden by GVA Consultants AB, (GVA-C), for Platform A (Atlantis), Bottom Hole Location Lease OCS-G 15607, Block 743, Green Canyon Area. The Surface Location is in GC 787 (RUE number is to be issued).

The request for the approval of the departure from 30 CFR 250.901(d) is hereby granted.

Sincerely,

for: Donald C. Howard
Regional Supervisor
Field Operations

Redacted

EXHIBIT 25

bp

Contract Copy
Confidential
Do not copy or circulate

Hull and Moorings Fabrication Services Contract

No. BPA–01–03454

Change Order No. ATL–0001

Semi-Submersible Production and Drilling Facilities
Atlantis Project
Gulf of Mexico Deepwater Developments

between

BP America Production Company

and

Daewoo Shipbuilding & Marine Engineering Co., Ltd.

This copy No. 7 of
Daewoo Contract BPA–01–03454, Change Order No. ATL–0001
issued to Tony Eccles

CONFIDENTIAL - DO NOT COPY OR CIRCULATE

This document is confidential and proprietary, and is subject to the confidentiality provisions contained in the Atlantis operating agreement. Acceptance of this document shall be deemed your agreement to abide by the confidentiality provisions contained in the referenced operating agreement. Information contained herein shall be used solely for the purpose of carrying out your assigned duties on the integrated project team pursuant to the referenced operating agreement.

ORIGINAL

HULL AND MOORINGS FABRICATION SERVICES CONTRACT
BETWEEN
BP AMERICA PRODUCTION COMPANY
AND
DAEWOO SHIPBUILDING & MARINE ENGINEERING CO., LTD.
DATED SEPTEMBER 1, 2001

COPY

CHANGE ORDER NUMBER ATL-0001

This Change Order Number ATL-0001 is entered into as of the date hereinbelow to extend the term of the Contract in accordance with Article 4 and to expand the Scope of Work set forth in Exhibit "A" to provide for the design, fabrication, transportation, and other services pertaining to the semi-submersible production facility for the Atlantis Deepwater Development, all as more particularly described in the enclosed Exhibit "A." The Articles and Exhibits of the Contract referenced below shall be amended to the extent indicated herein to apply exclusively to the Atlantis project, otherwise the terms of the Contract for the Atlantis project shall remain as written.

1. Article 4, Term of the Contract, Section 4.02

   Company hereby elects to exercise its first option to extend the term of the Contract under the same terms and conditions except as otherwise stated hereinbelow and at the respective rates set forth in the enclosed Exhibit "C" for that period of time required to design, fabricate, and transport the second Semi. Contractor's mutual agreement in accordance with the provisions of Section 4.02.02 is hereby confirmed.

2. Article 9, Time of Commencement and Completion, Section 9.03

   Section 9.03 shall be amended to read:

   > Contractor agrees that an amount equal to Ninety-Seven Thousand U.S. Dollars (US$97,000) for the Work shall be paid to Company by Contractor as liquidated damages and not as a penalty for each Day or part of a Day, up to a maximum period of one hundred eighty (180) Days, that the Work is delayed beyond twenty-one (21) Days from the completion date of May 26, 2005, as set forth in Exhibit "A" or as extended in accordance with Article 10. Contractor's obligation for delayed delivery and Company's sole remedy therefor shall be as set forth in this Section 9.03.

3. Article 11, Payment, Section 11.01

   The maximum cumulative sum stipulated therein to be received by Contractor for performance of Work shall be amended to read: Two Hundred Million U.S. Dollars (US$200,000,000).

4. Article 11, Payment, Section 11.03

   The address for submission of invoices shall be amended to read:

   BP America Production Company
   Attention: Scanning Dept. S646
   P.O. Box 22024
   Tulsa, OK 74121-2024

5. Article 11, Payment, Section 11.04

   The Paykey Number to identify each invoice shall be amended to read:

   Paykey Number ZYLD09ATLA

File: I:\Pmms\1999 - Project Contracting\Contracts\Mcalexander\Rfp-2001\Semi-Submersible Production And Drilling\Daewoo Final Contract\Atlantis\Daewoo Contract Bpa-01-03454 Co Atl-0001.Doc

1.3 Engineering and Design

Contractor shall perform detailed engineering and design of the complete Semisubmersible floating platform facility; excluding process facilities modules, systems, and equipment explicitly stated within this Exhibit "A" as being supplied by others. Major Items in Contractor's detailed engineering and design scope include:

- the Semisubmersible hull and deck structure with associated access platforms, helideck and appurtenances;
- mechanical, electrical and controls equipment and systems within the hull and deck structure;
- pipe supports and pipe design;
- instrumentation, fire and gas detection, and control details;
- insulation, corrosion protection and painting details;
- material take-offs and bills quantity of material
- the accommodations and office facilities;
- the on-vessel mooring systems/equipment;
- riser support and guide systems within or externally attached to the hull;
- equipment and systems that interface with the topsides facilities modules and physically located in the hull;
- assist with interface regarding topsides and subsea systems that are to be designed and installed by others;
- incorporation of all vendor data into the design; and
- participation in Company safety, health and environmental assessments.

The Atlantis Semi shall be designed to a 30 year total service life. Contractor shall make all efforts to design for ease of in-service inspection and minimum maintenance.

Company and GVA shall contract for model tests and process data and documents for the model tests and provide relevant results to Contractor. The model tests will be used to verify the Semisubmersible's motion responses and resulting accelerations, etc.

Company will provide Contractor with a BASIC documentation package approved by American Bureau of Shipping (ABS). Approvals and clearing of ABS comments relative to BFE equipment and detail engineering shall be part of the Contractor's scope of Work. Contractor shall perform detailed engineering design on the basis of the BASIC documentation package which will not be completed prior to commencement of Contractor's detailed engineering as significant overlap of schedules is expected. However, BASIC work will be completed in phases planned to accommodate required start of initial detailed engineering.

Except for ABS approval of BASIC mentioned above and ABS approval of Company furnished materials listed in Attachment "A–3," Contractor shall provide all classification society (ABS) services required to class the Semisubmersible, marine and safety systems, on-vessel mooring system components and all other elements within Contractor' Scope of Work as a Floating Offshore Installation (FOI). Contractor shall develop all required documents for regulatory submittal as allowed by U.S. Coast Guard (USCG) NVICs 10-82, 3-97, and 10-92. Contractor is responsible for ensuring that certification requirements necessary for handover, set forth in Section 1.14, are met. Contractor shall provide

or major block skidding, load out, launching operations; sea fastening plans and procedures; and plans and procedures for transportation to the Gulf of Mexico, and offloading in the Gulf of Mexico.

To clarify engineering documentation plans and schedule, within sixty (60) Days of Contract Award, Contractor shall prepare an initial engineering documentation plan for Company review and Approval that will include as a minimum:

- list of documents/drawings, including required vendor data
- specification of the document/drawing format, size, label system, etc.
- number of copies to be submitted to Company for review
- time allocated for Company review
- time allocated for ABS and USCG review
- procedure to distribute all ABS/USCG review correspondence
- procedure for subcontractor plans
- schedule for receipt, distribution, review and finalization of vendor data
- distribution of finished (as built) documents/drawings including required framed drawings
- distribution of all final manuals and drawings in electronic format.

This engineering documentation plan will be modified as necessary to reflect project needs identified through the course of the project. It can/will serve as the engineering document register.

Document Distribution Matrix

An overall document distribution matrix shall be prepared jointly between Contractor and Company for issue sixty (60) Days after Contract Award. The matrix shall include the distribution for design reports, specifications, purchase orders, drawings, procedures, Quality and HSE documents, etc.

As-Built Documentation

Upon departure of the Semisubmersible unit from Contractor's fabrication Site quay, Contractor shall produce redlined "as-Built" information. Within sixty (60) Days of Semisubmersible hand over as defined in Section 1.14, Contractor shall supply Company with full sets of as-built drawings, dimensional control reports, photographs, etc., which shall incorporate all the changes, modifications, etc., made during the fabrication from AFC drawings. The as–built drawings shall clearly detail all the interfaces, piping pressure test data and supply responsibilities between the hull and topsides for all structures, piping, electrical, instrument, and utility systems, etc. The as-built documentation shall include the full traceability requirements of Company's specifications and Section 11 of this Exhibit. Contractors documentation shall include BFE vendor data manuals.

Photographic Survey

Contractor will provide a photographic mosaic survey of the entirety of the hull external surface with sufficient quality to assist the offshore installation Work and future inspection and maintenance.

ATTACHMENT A

IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF TEXAS
HOUSTON DIVISION

UNITED STATES OF AMERICA EX REL. KENNETH W. ABBOTT; KENNETH W. ABBOTT, INDIVIDUALLY; AND FOOD & WATER WA TCH, INC.;	§	
Plaintiffs,	§	CIVIL ACTION NO. 4:09-CV-01193
v.	§	JURY DEMANDED
BP EXPLORATION AND PRODUCTION INC., ET AL.;	§	
Defendants.	§	

DECLARATION OF MARY WHITTLE

I, Mary Whittle, pursuant to the provisions of 28 U.S.C. § 1746, declare:

1. I am an attorney at law licensed to practice before the court of the State of Texas and the District of Columbia. I am counsel for Plaintiffs United States of America *ex rel.* Kenneth W. Abbott, Kenneth W. Abbott, individually, and Food and Water Watch, Inc. (collectively "Plaintiffs") in this matter. I am fully familiar with the facts stated below and submit this declaration and the attached exhibits in support of Plaintiffs' Motion for Summary Judgment. All of the statements of fact in this Declaration are true and correct according to my personal knowledge.

2. Attached hereto as Exhibit 1 is a true and correct copy of Bates Numbered Document BPEP_ABB_01597639 and 01597642, Atlantis Field, Supplemental Conservation Information Document (March 2009).

3. Attached hereto as Exhibit 2 is a true and correct copy of Bates Numbered Document BPEP_ABB_00086577, 00086583 and 00086590, Atlantis Project – Application to Design, Fabricate and Install a Platform (Sept. 2002) ("Platform Application").

4. Attached hereto as Exhibit 3 is a true and correct copy of Bates Numbered Document FWW0008511/512, Lease OCS-G 15606.

5. Attached hereto as Exhibit 4 is a true and correct copy of pages from the deposition of B. Domangue dated November 15, 2011.

6. Attached hereto as Exhibit 5 is a true and correct copy of Bates Numbered Document BPEP_ABB_00094892, the Swift Technical Services LLC–Contract for Services.

7. Attached hereto as Exhibit 6 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03455080, Organization Chart Showing Abbott's position.

8. Attached hereto as Exhibit 7 is a true and correct copy of the Bates Numbered Document ABB0015861 and 0015894, April 24, 2009 Letter to U.S. DOJ with attached Plaintiffs' Original Complaint.

9. Attached hereto as Exhibit 8 is a true and correct copy of pages from the Deposition of K. Abbott dated December 16, 2011.

10. Attached hereto as Exhibit 9 is a true and correct copy of the Bates Numbered Document BPEP_ABB_01524673, email from B. Duff to B. Naseman and W. Broman dated August 15, 2008.

11. Attached hereto as Exhibit 10 is a true and correct copy of pages from the Deposition of B. Duff dated September 12, 2011.

12. Attached hereto as Exhibit 11 is a true and correct copy of the Bates Numbered Document BPEP_ABB_01524667/4668, email from B. Duff to A. Gregg and Bill E. Naseman dated August 15, 2008.

13. Attached hereto as Exhibit 12 is a true and correct copy of pages from the Deposition of T. Curtis dated September 12, 2011.

14. Attached hereto as Exhibit 13 is a true and correct copy of the Bates Numbered Document BPEP_ABB_01521407/1409.

15. Attached hereto as Exhibit 14 is a true and correct copy of the Bates Numbered Document MUSTANG ENG 000205 and 000210, Atlantis Records Management Project Execution Plan, Document number 1440-10-AD-PR-0005.

16. Attached hereto as Exhibit 15 is a true and correct copy of pages from the Deposition of W. Naseman dated November 30, 2011.

17. Attached hereto as Exhibit 16 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03463083, 03463088, 03453108 and 03453109, BP Ombudsman Employee Concerns Program, Confidential Investigation Report, Case No: 2009-005.

18. Attached hereto as Exhibit 17 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00115572/5574, letter from Rep. Grijalva (U.S. Congress) to E. Birnbaum (MMS) dated February 24, 2010.

19. Attached hereto as Exhibit 18 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00115575, letter from MMS to Rep. Grijalva (House of Rep) dated March 26, 2010.

20. Attached hereto as Exhibit 19 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00082829/2830, letter from M. Saucier (MMS) to S. Todd (BP) dated July 21, 2010.

21. Attached hereto as Exhibit 20 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00115564/5566, letter from S. Todd (BP) to M. Saucier (MMS) dated Aug. 9, 2010.

22. Attached hereto as Exhibit 21 is a true and correct copy of pages from the Deposition of D. Sustala dated September 19, 2011.

23. Attached hereto as Exhibit 22 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00086984, letter from T. Laurendine for D. Howard, MMS, to D. Sustala, BP dated December 12, 2002.

24. Attached hereto as Exhibit 23 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00086986/6989, letter from D. Sustala, BP, to D. Howard, MMS, dated January 27, 2003.

25. Attached hereto as Exhibit 24 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00087025, email from T. Laurendine for D. Howard, MMS, to D. Sustala, dated February 25, 2003.

26. Attached hereto as Exhibit 25 is a true and correct copy of the Bates Numbered Document BPEP_ABB_04076454/6455, 04076462 and 04076464, DSME Contract dated Sept. 1, 2001, § 1.3 "Engineering and Design."

27. Attached hereto as Exhibit 26 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00087049/7050, email from T. Laurendine, MMS, to D. Sustala, BP dated January 16, 2005.

28. Attached hereto as Exhibit 27 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00087685, letter from A. Shah for Lars T. Herbst, MMS, to D. Sustala, BP, dated January 16, 2007.

29. Attached hereto as Exhibit 28 is a true and correct copy of pages from the Deposition of D. Sustala dated May 10, 2011.

30. Attached hereto as Exhibit 29 is a true and correct copy of pages from the Deposition of K. DeJohn dated September 14, 2011.

31. Attached hereto as Exhibit 30 is a true and correct copy of pages from the Deposition of S. Todd dated December 5, 2011.

32. Attached hereto as Exhibit 31 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00111486, 00111493 and 00111525, Atlantis Project Floating Systems Team Project Execution Plan.

33. Attached hereto as Exhibit 32 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00112443, email from D. Sustala, BP, and L. Pekel, ABS, dated November 26, 2002 (1:56PM).

34. Attached hereto as Exhibit 33 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00112441/2442, email from D. Sustala to L. Pekel dated November 26, 2002 (4:28PM).

35. Attached hereto as Exhibit 34 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00112440, email from D. Sustala to L. Pekel dated November 26, 2002 (4:38PM).

36. Attached hereto as Exhibit 35 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00112401/2402, email from L. Pekel to D. Sustala dated December 6, 2002 (11:53AM).

37. Attached hereto as Exhibit 36 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00112426/2427, email exchange between P. Ganguly, Millennium Technical Consultants, and D. Sustala, BP, dated November 29, 2002.

38. Attached hereto as Exhibit 37 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00112616, email from D. Sustala, BP, to P. Ganguly, Millennium Technical Consultants dated October 24, 2002.

39. Attached hereto as Exhibit 38 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00112450/2452, email from S. Kinnaman to D. Sustala dated November 22, 2002.

40. Attached hereto as Exhibit 39 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00112629/2630, email from B. Thurmond to D. Sustala dated October 23, 2002.

41. Attached hereto as Exhibit 40 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00112524/2526, email from D. Sustala to K. Jansson, GVA, dated October 24, 2002.

42. Attached hereto as Exhibit 41 is a true and correct copy of pages from the Deposition of R. Peloubet dated September 9, 2011.

43. Attached hereto as Exhibit 42 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00112627, email from D. Sustala to J. Faulker dated October 24, 2002.

44. Attached hereto as Exhibit 43 is a true and correct copy of the Bates Number Document BPEP_ABB_00112508, email from R. Phillips to D. Sustala dated October 25, 2002.

45. Attached hereto as Exhibit 44 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00112453/2454, email from D. Sustala dated November 21, 2002.

46. Attached hereto as Exhibit 45 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00110497/0499, email from D. Sustala (BP) to S. Kinnaman (Mustang) dated March 24, 2004.

47. Attached hereto as Exhibit 46 is a true and correct copy of pages from the Deposition of F. Ragan taken September 8, 2011.

48. Attached hereto as Exhibit 47 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00110014/0015, email from F. Ragan to K. DeJohn, L. Osborn and D. Sustala dated November 12, 2005.

49. Attached hereto as Exhibit 48 is a true and correct copy of the pages from the Deposition of G. Malone taken August 30, 2011.

50. Attached hereto as Exhibit 49 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03493064, email from C. Ward to K. Smith (Hull arrives in Corpus Christi from Korea on May 25, 2005; integration ran from May 2005 through August 2006) dated August 30, 2010.

51. Attached hereto as Exhibit 50 is a true and correct copy of pages from the Deposition of J. Upchurch taken October 4, 2011.

52. Attached hereto as Exhibit 51 is a true and correct copy of pages from the Deposition of R. Berger taken September 15, 2011.

53. Attached hereto as Exhibit 52 is a true and correct copy of the Bates Numbered Document BPEP_ABB_01524687/4688, email from B. Naseman to A. Taylor attaching FST Handover Schedule dated March 5, 2008.

54. Attached hereto as Exhibit 53 is a true and correct copy of pages from the Deposition of L. Osborn taken September 21, 2011.

55. Attached hereto as Exhibit 54 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00115909 and BPEP_ABB_00115917, Specification for Data and Information Handover from Projects into Operations, 1400-85-IM-SP-8700.

56. Attached hereto as Exhibit 55 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03500136 and BPEP_ABB_03500143, Atlantis Engineering Workflow Process.

57. Attached hereto as Exhibit 56 is a true and correct copy of the Bates Numbered Document BPEP_ABB_01631097, BPEP_ABB_01631100 and BPEP_ABB_01631106, Document Control Procedure, ssproj-10-PCPR-000001.

58. Attached hereto as Exhibit 57 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03505121 and BPEP_ABB_03505126, Contractor Document Control Procedure, 1400-10-AD-PR-0219.

59. Attached hereto as Exhibit 58 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03505155 and BPEP_ABB_03505159/5160, MEI Document Control Procedure, 1400-10-AD-PR-0214.

60. Attached hereto as Exhibit 59 is a true and correct copy of the Bates Numbered Document BPEP_ABB_01453338 and BPEP_ABB_01453359/3374, Project Orientation and Procedures Manual, 1440-21-POPM-PR-0001.

61. Attached hereto as Exhibit 60 is a true and correct copy of the Bates Numbered Document MUSTANG ENG 000001, MUSTANG ENG 000072 and MUSTANG ENG 000090, Topsides Design Engineering and Project Services Contract, Ex. A "Scope of Work," Section 2.3.4.1.

62. Attached hereto as Exhibit 61 is a true and correct copy of the Bates Numbered Document T-USA 000001 and T-USA 000056, Well Systems Integrations and Design Services Engineering Contract, Ex. A "Scope of Work," Section 11.6.

63. Attached hereto as Exhibit 62 is a true and correct copy of pages from the Deposition of R. Malone taken September 13, 2011.

64. Attached hereto as Exhibit 63 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03534372/4379, Finance Memo.

65. Attached hereto as Exhibit 64 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03534380, BPEP_ABB_03534382, BPEP_ABB_03534384, BPEP_ABB_03534386, BPEP_ABB_03534388, BPEP_ABB_03534390 and BPEP_ABB_03534392, GoM Atlantis South Supplementary FM and Atlantis Phase 2 Strategy.

66. Attached hereto as Exhibit 65 is a true and correct copy of the Atlantis South Supplement Cost Estimate Summary previously marked as Discovery Exhibit No. 347 in this case.

67. Attached hereto as Exhibit 66 is a true and correct copy of pages from the Deposition of W. Naseman taken November 30, 2011.

68. Attached hereto as Exhibit 67 is a true and correct copy of Bates Numbered Document BPEP_ABB_00091459, email from B. Naseman to W. Broman and B. Duff dated April 25, 2008.

69. Attached hereto as Exhibit 68 is a true and correct copy of the Bates Numbered Document BPEP_ABB_01519199/9200, email from B. Duff to A. Gregg, M. Garland and T. Curtis dated May 6, 2008.

70. Attached hereto as Exhibit 69 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00089380, email exchange from G. Imm to R. Berger dated May 13, 2008.

71. Attached hereto as Exhibit 70 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00115759/5760, email from R. Peloubet to S. Todd dated April 20, 2010.

72. Attached hereto as Exhibit 71 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03482184/2185, email from N. Oza (BP) to S. Berg (Technip) dated July 22, 2008.

73. Attached hereto as Exhibit 72 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03505962/5963, email from L. Osborn (Mustang) to M. Garland (BP) dated May 12, 2009.

74. Attached hereto as Exhibit 73 is a true and correct copy of pages from the Deposition of S. Todd taken May 9, 2011.

75. Attached hereto as Exhibit 74 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00115609 and BPEP_ABB_00115620, email from S. Todd (BP) to B. Domangue (MMS), dated July 3, 2010 (with Power Point presentation attached stating that BP followed its Specification for Handover).

76. Attached hereto as Exhibit 75 is a true and correct copy of the Bates Numbered Document BPEP_ABB_01622474. Email from B. Domangue to D. Sustala dated August 20, 2010.

77. Attached hereto as Exhibit 76 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00082845/2846, email from S. Todd (BP) to B. Domangue dated August 25, 2010.

78. Attached hereto as Exhibit 77 is a true and correct copy of the Title page and pages 7-8 of API RP 14C (Sec. 3.2 and 3.4(e)).

79. Attached hereto as Exhibit 78 is a true and correct copy of Bates Numbered Document FWW0018028/18029, email from W. Hauser to Z. Corrigan dated February 17, 2010.

80. Attached hereto as Exhibit 79 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00085724/5727, letter from B. Domangue, MMS, to D. Sustala, BP, dated May 3, 2007.

81. Attached hereto as Exhibit 80 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00085234, Professional Engineering Statement (Item 5).

82. Attached hereto as Exhibit 81 is a true and correct copy of the Bates Numbered Document BPEP_ABB_01598219/8220, letter from D. Sustala, BP, to Michael Saucier dated February 23, 2005.

83. Attached hereto as Exhibit 82 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00084533/4534, letter from D. Sustala to M. Saucier dated February 25, 2005.

84. Attached hereto as Exhibit 83 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00084932/4933, letter from D. Sustala to M. Saucier dated August 1, 2005.

85. Attached hereto as Exhibit 84 is a true and correct copy of *The Professional Engineering* (Nat'l So. Prof. Eng. July 2007).

86. Attached hereto as Exhibit 85 is a true and correct copy of Bates Numbered Document BPEP_ABB_00082852/2854, email from B. Domangue (MMS) to S. Todd (BP) dated August 31, 2010.

87. Attached hereto as Exhibit 86 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00110518/0519, email from R. Phillips to D. Sustala, J. Hart and L. Osborn dated January 29, 2004.

88. Attached hereto as Exhibit 87 is a true and correct copy of pages from BP Native File Bates Numbered Document BPEP_ABB_00854373 (Title Page and Page 29 of 35), System Certification Package, 1440-35-SB-SP-3033_ATS_SIC_Rev0.doc (contained within TS Subsea Control System 956, Document Number 1440-20-CM-PR-956-8001).

89. Attached hereto as Exhibit 88 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00110497/0499, email from D. Sustala (BP) to S. Kinnaman (Mustang) dated March 24, 2004.

90. Attached hereto as Exhibit 89 is a true and correct copy of the Bates Numbered Document BPEP_ABB_05211191/1193, email from D. Sustala (BP) to A. Laplante (BP) dated March 25, 2004.

91. Attached hereto as Exhibit 90 is a true and correct copy of the Bates Numbered Document T-USA 001407 and T-USA 001419, BP Well Integration and Design Engineering Atlantis Sealing Plan § 3.3.

92. Attached hereto as Exhibit 91 is a true and correct copy of pages from the deposition of D. Elmer dated September 14, 2011.

93. Attached hereto as Exhibit 92 is a true and correct copy of pages from the Deposition of G. Stevick taken December 20, 2011.

94. Attached hereto as Exhibit 93 is a true and correct copy of Bates Numbered Document FWW0008573 and FWW0008620, Site-Specific Environmental Assessment (SEA) No. N-7646 at E-2 (April 17, 2003).

95. Attached hereto as Exhibit 94 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03534711 and BPEP_ABB_03534784, DOCD, Environmental Impact Statement § 8.3.

96. Attached hereto as Exhibit 95 is a true and correct copy of pages from the Deposition of R. Pierce taken December 1, 2011.

97. Attached hereto as Exhibit 96 is a true and correct copy of the Bates Numbered Document BPEP_ABB_04147184 and BPEP_ABB_04147199, Gulf of Mexico SPU-Atlantis, S&O Audit, 30 November 2009 to 11 December 2009 – Entity Verifiable Findings, Audit 0935.

98. Attached hereto as Exhibit 97 is a true and correct copy of BPEP_ABB_04147214 and BPEP_ABB_04147241, Audit Report, Safety & Operations Audit, Final Report 13 January 2010.

99. Attached hereto as Exhibit 98 is a true and correct copy of the Bates Numbered Document BPEP_ABB_02828782/8789 and BPEP_ABB_02828796, Worley Parsons Atlantis PSV-41003 Sizing Check Calculation, August 19, 2010.

100. Attached hereto as Exhibit 99 is a true and correct copy of the Bates Numbered Document BPEP_ABB_04135740, Root Cause Failure Analysis Report – Gas Turbine Generator ZAN-5000 Shutdown.

101. Attached hereto as Exhibit 100 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03514575, email from F. Ragan to W. Dean (Technip) dated February 11, 2008.

102. Attached hereto as Exhibit 101 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03502155/2156, email from S. Maxwell to R. Oneta dated September 22, 2007.

103. Attached hereto as Exhibit 102 is a true and correct copy of pages from the Deposition of S. Cotton taken December 14, 2011.

104. Attached hereto as Exhibit 103 is a true and correct copy of BP Native File Bates Numbered Document BPEP_ABB_02832882, Piping and Instrument Diagram, Pipeline Pumps (Drawing No. 1440-20-PI-DG-4389).

105. Attached hereto as Exhibit 104 is a true and correct copy of Bates Numbered Document BPEP_ABB_03579591/9592, email from R. Berger to B. Broman dated August 26, 2008.

106. Attached hereto as Exhibit 105 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03359747/9757, Safety Shutdown Logic Drawings, BP Document Numbers 1440-35-SB-DG-3021 through 3030.

107. Attached hereto as Exhibit 106 is a true and correct copy of pages from the Deposition of K. Angel taken December 14, 2011.

108. Attached hereto as Exhibit 107 is a true and correct copy of List of BP Controls Malfunctions Documents and Listed Documentation.

109. Attached hereto as Exhibit 108 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03512831, email from B. Young to N. Oza and R. Berger dated January 3, 2008.

110. Attached hereto as Exhibit 109 is a true and correct copy of the Bates Numbered Document BPEP_ABB_04125309, email from N. Oza re: FW Subsea vavles (sic) opening without requested, dated January 7, 2008.

111. Attached hereto as Exhibit 110 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03559672/9673, email from W. Broman to N. Oza dated January 7, 2008.

112. Attached hereto as Exhibit 111 is a true and correct copy of pages from the Deposition of R. Berger taken November 2, 2011.

113. Attached hereto as Exhibit 112 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03626944/6945, email from J. Little re: DC122 Shut in, dated August 10, 2008.

114. Attached hereto as Exhibit 113 is a true and correct copy of the Bates Numbered Document BPEP_ABB_02895422/5423, Functional Design Specification for the Master Control Station, Subsea Control Unit, BP Doc. No. 1440-35-SB-SP-0030.

115. Attached hereto as Exhibit 114 is a true and correct copy of the Bates Numbered Document BPEP_ABB_02408632, Subsea Control System Cause and Effects, BP Doc. No. 1440-35-SB-RP-0114.

116. Attached hereto as Exhibit 115 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03244795, Master Control Station Site Integration Test, BP Doc. No. 1440-35-SB-PR-0130.

117. Attached hereto as Exhibit 116 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00087921 (and internal pages 10-19 through 10-22), Preliminary Deepwater Operations Plan, dated June 21, 2004.

118. Attached hereto as Exhibit 117 is a true and correct copy of pages from the Deposition of L. Holzenthal taken December 13, 2011.

119. Attached hereto as Exhibit 118 is a true and correct copy of the Bates Numbered Document BPEP_ABB_04135705/5709, email from S. Cotton to K. DeJohn and F. Ragan re: FW: Atlantis update, dated August 5, 2008.

120. Attached hereto as Exhibit 119 is a true and correct copy of the Bates Numbered Document BPEP_ABB_04135730, email from S. Cotton to Waterhouse re: Subsea Comms MOC-08-218 Hazard Review, dated October 28, 2008.

121. Attached hereto as Exhibit 120 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03498616/8618, email from R. Peloubet re: Operations Managers Meeting and Higher dated January 22, 2007.

122. Attached hereto as Exhibit 121 is a true and correct copy of pages from the Deposition of W. Castell dated June 22, 2011.

123. Attached hereto as Exhibit 122 is a true and correct copy of pages from the Deposition of G. Cowlam dated June 7, 2011.

124. Attached hereto as Exhibit 123 is a true and correct copy of pages from the Deposition of S. Newman dated September 30, 2011.

125. Attached hereto as Exhibit 124 is a true and correct copy of pages from the Deposition of P. Campbell dated July 12, 2011.

126. Attached hereto as Exhibit 125 is a true and correct copy of pages from the Deposition of R. Turlak dated September 28, 2011.

I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct.

Executed this 4th day of April 2012, in Washington, D.C.

/s/ Mary Whittle
Mary Whittle

EXHIBIT 26

Case 4:09-cv-01193 Document 340-1 Filed in TXSD on 04/04/12 Page 2 of 3

Sustala, Dennis R

From: Laurendine, Tommy [Tommy.Laurendine@mms.gov]
Sent: Wednesday, November 16, 2005 8:07 AM
To: Sustala, Dennis R; Gordon, Joe; Howard, Donald; Gill, Clous 'Tee'
Cc: LPekel@eagle.org; Imm, Gary R; Kelly, Patrick (KBR)
Subject: RE: GC787 A Platform - Critical Need for MMS Response to Mooring System Proposal

By letter dated November 9, 2005 the MMS received the recommendation from ABS as the Certified Verification Agent for the Atlantis project to proceed with installation of the PQ platform by hooking up six mooring lines from the pre-installed suction caissons and mooring lines. And then installing the remaining six suction caissons and hooking up these mooring lines in succession.

The MMS hereby accepts BP's proposed installation plan of the PQ "Atlantis" platform in the proposed method.

All structural permits should be submitted to structures@mms.gov
T. T. "Tommy" Laurendine, P.E.
Chief, Office of Structural & Technical Support (OSTS)
Minerals Management Service
P.O.Box 60389
Houston, Texas 77205
The physical address is 16855 Northchase Drive, Houston, Texas 77060
Tel: (281)873-1852
Fax: (281)873-1976
Cell: (281)755-5213
Cell: (504)388-7250

From: Sustala, Dennis R [mailto:Dennis.Sustala@bp.com]
Sent: Monday, November 14, 2005 7:54 PM
To: Tommy.Laurendine@ms.gov; Gordon, Joseph; Gordon, Joe; Howard, Donald; Structures; FieldOperations; Don.Howard@mms.gov
Cc: LPekel@eagle.org; Imm, Gary R; Kelly, Patrick (KBR)
Subject: FW: GC787 A Platform - Critical Need for MMS Response to Mooring System Proposal
Importance: High

Gentlemen:

On Thursday, October 20, 2005, we attended a meeting between BP, ABS, and MMS personnel where we discussed the proposed Atlantis mooring arrangements.

Our proposal entitled, "BP Atlantis PQ moorings-storm safe condition during hook-up" was reviewed by Dr. Ken Huang and others in ABS and a formal ABS recommendation for approval was formulated and submitted to the MMS on Thursday, October 27, 2005.

During the meeting MMS requested that we provide additional data. This information was

Redacted

Case 4:09-cv-01193 Document 340-1 Filed in TXSD on 04/04/12 Page 3 of 3

collected, and hand delivered to both MMS and ABS on October 31, 2005. ABS reviewed the new data requested by MMS and concluded:

"We have received the document (1) of 31 October 2005 from BP America for our information. This document contains information in addition to the report 'BP Atlantis PQ moorings- storm safe condition during hook-up (2)'.

The information contained in document (1) was found acceptable and does not change our recommendation as formulated in our letter dated 27 October 2005.

ABS recommends that the Regional Supervisor, MMS, accept the installation plan as proposed in document (2) for BP Atlantis PQ."

This second recommendation was emailed and hand delivered to MMS on November 9, 2005.

CRITICAL NEED FOR MMS RESPONSE

At this time we are in critical need of a response to our proposal from the MMS. Our tugs are on standby waiting the arrival of the final towout vessel on Wednesday, November 16, 2005. We will must begin connecting the vessels to the platform in order to be ready for the anticipated towout this weekend.

The USCG will not allow the platform to leave port until they have received documentation demonstrating that MMS has approved the final mooring system at GC787. Therefore, we urgently request that MMS issue written approval to connect the platform to the existing piles and mooring lines and to install and connect the remaining mooring system lines to complete the final 12- line system proposed by BP.

I request that MMS please fax the approval to our number at 281 366 0900.
For additional information, please contact me at my email address at sustaldr@bp.com or by the phone numbers shown below.

Dennis Sustala
Regulatory Compliance Manager
BP Exploration & Production Inc.
Atlantis Project
200 Westlake Park Blvd.
Houston, Texas 77079
281 366 0898 Work Number
282 366 0900 Fax
713 865 6824 Cell Number

Redacted

EXHIBIT 27

United States Department of the Interior

MINERALS MANAGEMENT SERVICE
Gulf of Mexico OCS Region
1201 Elmwood Park Boulevard
New Orleans, Louisiana 70123-2394

In Reply Refer To: Structures@mms.gov

January 16, 2007

Mr. Dennis Sustala
BP Exploration & Production Inc.
200 Westlake Park Boulevard
Houston, Texas 77079
Dennis.sustala@bp.com

Dear Mr. Sustala:

By letter dated January 12, 2007, your Installation Certified Verification Agent (CVA) American Bureau of Shipping, submitted to this office the Installation Verification Report for Platform A (Atlantis) (CID No. 1223-1), Lease OCS-G 15607, Block 787, Green Canyon Area.

Based on our review of that report and the recommendation of the CVA, the installation of the subject platform is hereby approved.

Sincerely,

Arvind Shah

For: Lars T. Herbst
Regional Supervisor
Field Operations

cc: jburson@eagle.org
rmajor@eagle.org
msano@eagle.org

TAKE PRIDE® IN AMERICA

Redacted

EXHIBIT 28

IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF TEXAS
HOUSTON DIVISION

UNITED STATES OF AMERICA EX REL. KENNETH W. ABBOTT; KENNETH W. ABBOTT, INDIVIDUALLY; AND FOOD & WATER WATCH, INC.,	:	
Plaintiffs,	:	
VS.	:	CIVIL ACTION NO. 4:09-CV-01193
BP EXPLORATION AND PRODUCTION INC., ET AL,	:	
Defendants.	:	

****

ORAL AND VIDEOTAPED DEPOSITION OF
DENNIS SUSTALA
MAY 10, 2011

****

ORAL AND VIDEOTAPED DEPOSITION of DENNIS SUSTALA, produced as a witness at the instance of the Plaintiffs, and duly sworn, was taken in the above-styled and numbered cause on May 10, 2011, from 9:05 a.m. to 3:36 p.m., before PHYLLIS WALTZ, CSR, TCRR, RPR, CRR, in and for the State of Texas, recorded by machine shorthand, at the offices of Fulbright & Jaworski, L.L.P., 1301 McKinney, Suite 5100, Houston, Texas, pursuant to the Federal Rules of Civil Procedure and the provisions stated on the record or attached hereto; that the deposition shall be read and signed before any Notary Public.

Q. Do you work for BP?
A. I do.
Q. How long have you worked for BP?
A. I've worked for BP approximately 11 years.
09:09 Q. Okay. What kind of work did you do before you went to work for BP?
A. I worked for another oil and gas company.
Q. Which one?
A. I worked for Vastar Resources.
09:09 Q. Who?
A. Vastar Resources, Incorporated.
Q. V-a-s-t-a-r?
A. That's correct.
Q. And what -- what kind of work do they do?
09:10 A. They're an oil and gas production company, also.
Q. Okay.
A. Exploration and production company.
Q. And what did you do for them?
09:10 A. I do the same type of work for them as I do for BP.
Q. What is your job for BP?
A. I am a regulatory coordinator.
Q. Is that like an official job title for you?
09:10 A. My job title changes from time to time,

(Break.)

THE VIDEOGRAPHER: On the record at 10:15 a.m., beginning tape 2.

Q. (BY MR. PERRY) Mr. Saucier --

10:15 MR. DENNY: No.

MR. PERRY: I'm sorry. Thank you. Thank you, Mr. Denny.

MR. DENNY: You enjoy saying that name so much.

10:15 MR. GOODPASTOR: It's a great name, isn't it?

MR. PERRY: Not to take away from present company.

MR. DENNY: That's true.

10:15 Q. (BY MR. PERRY) Mr. Sustala, one -- one of the documents that was handed to us earlier that you had reviewed in preparation for the deposition that we have marked as Discovery Exhibit 45 begins with a letter from you to Don Howard at MMS. The letter is dated 10:15 September 17 of '02 and it is re, colon, application to design, fabricate, and install a platform and it has a bunch of papers attached to it. And then I have taken the last sheet out of that Exhibit 45, and I have marked the last sheet as Discovery Exhibit 48. Discovery 10:16 Exhibit 48 is a letter to you from Lars Herbst,

H-e-r-b-s-t. Is that how he pronounces his name?

A. I believe so, yes.

Q. And since I don't have an extra copy of it, I'll just read it into the record and then hand it to you. But it's addressed to you. It's dated January 16 of 2007. It reads, By letter dated January 12, 2007 -- let me just kind of lean over here, and you and I can -- you can read along with me while I read it.

Letter dated January 12, 2007, your Installation Certified Verification Agent (CVA) American Bureau of Shipping, submitted to this office the Installation Verification Report for Platform A (Atlantis), CID number, dot, dot, dot, dot, Green Canyon Area. Based on our review of that report and the recommendation of the CVA the installation of the subject platform is hereby approved. Is this document, Discovery Exhibit 48, does that constitute the platform installation permit?

A. This is a final approval. It's one of several approvals having to do with the installation of the platform.

Q. Okay.

A. This document that we -- you just handed me is the -- is a final summary, basically my understanding of what I'm reading is that it is stating that the MMS has

received all of the interim reports from the CVA, and based on that document we see of all the reports and other inputs to the MMS they are saying that all of the process for installation of the platform has been completed.

10:18

Q. Okay. Now, when I -- when a person who is not knowledgeable in the process it -- well, I believe we have used the word permitting in part of our discussions. I don't really remember whether the word permit is used in the regulations or not. Is that -- is that a word that's used in the regulations, or do you recall.

10:19

A. The word permit is -- is a -- a word that is found in the regulations, yes.

10:19

Q. The word permit sometimes implies some sort of a formal certification that has all kinds of pretty scrolly writing on it and maybe a seal and it says this person has a permit to do X. Do you get any such permit in that sort of -- of that sort of description from the MMS to install the platform, or do you ultimately get a letter which in this case is Discovery Exhibit 48 and that serves as your permit?

10:19

A. This is a approval that basically says that the process is complete. Based -- reading from the letter it says, Based on the review of the report and

10:20

starts out here, "BP certifies that"... Actually, there are two thats there, but it starts out by saying, "BP certifies that"... And if you look over at the regulation itself, the regulation itself starts out by saying "certification that"... I think somewhere up above it says you have to include A, and then it continues, "Certification that"...

I'm going to read to you out of the regulation that I'm looking at, which is out of 805 -- 803 -- excuse me, 802(e)5. I'm going to read this certification language, and I'd like for you just to follow along on the letter itself and make a note so you can testify in a minute as to what the difference is in the wording, okay?

A. All right.

Q. The language out of the regulation reads that "the design for the mechanical and electrical systems to be installed" -- let me stop right there. Up until this point is the letter word for word identical with what I read in the regulation?

A. Please -- please read it again.

Q. "That the design for the mechanical and electrical systems to be installed."

A. It's not exactly the same, but it is very similar.

Q. Well, the only difference is that there is an "s" on the word design, isn't it?

A. Uh-huh.

Q. Okay. And then continuing on, "were approved by"... That -- let me just -- let me just finish. "Were approved by registered professional engineers." Now, the language of the letter there is different, isn't it?

A. Yes, it is different.

Q. The language in the letter says, "were completed under the supervision of registered professional engineers." Was that change made for some reason?

A. To me they're equivalent statements.

Q. Okay. So as far as you're concerned what you were intending to do was to certify as required by the regulation that these systems were approved by registered professional engineers?

A. I was certifying that the designs of these two systems were approved by registered professional engineers, that's correct.

Q. Okay. Now, this same paragraph, I think word for word, appears in these two letters and also in a later letter dated August 1st of 2005. Are you aware of that in a general way?

professional engineers. So I depended both on the response from the management of the production system group that prepared these documents and the documents themselves had a specific statement to the same effect
01:20 that those -- that the documents we were submitting were approved by professional engineers.

Q. Now, the documents that came from the companies, the engineering companies, were they on the letterhead of the company?

01:20 A. The -- the document that I'm referring to was inside and with and attached to the binder that contained the drawings that we submitted as part of the application.

Q. Okay. And did that come from -- well, was
01:20 there one document or more than one document?

A. There was a single page in the -- in the -- the volumes that we submitted, and that document came to me from the -- from Ken DeJohn's group. It was handed to me through his -- his group.

01:21 Q. But it was a one, single-page document?

A. It was a single-page document, that's correct.

Q. And was it on a letterhead -- was it on the letterhead of a company?

A. It was not on a letterhead, but it did contain
01:21 the, I guess the right term is icon BP and Atlantis. So

it was, in my opinion, an official document stating it was an Atlantis statement to the MMS.

Q. But it wasn't -- was it signed by someone?

A. There was no signature. It was part of the application documents themselves.

Q. Are you familiar with a thing that is called an engineering seal?

A. Yes, I am.

Q. Do you know what -- do you know that you -- when you look at engineering documents sometimes you will see an engineering seal?

A. That's correct, yes.

Q. Do you know what the significance of an engineering seal is?

A. Yes, I do.

Q. What is it -- is its significance, as you understand it?

A. As I understand it, it means that that particular engineer has approved that particular document upon which he's placed his seal.

Q. Okay. And do you happen to know whether the engineering seal contains some various information that identify the engineer and things -- tell us certain things about him?

A. Generally I've seen that an engineering seal

will have his registration number, it will frequently identify the state in which he is licensed to do his work, it'll have a place for him to sign, and if I remember correctly -- I haven't looked at one lately, but I believe there is a place to date it, also.

Q. So that if an engineering document has the -- has a seal on it, does that sort of immediately provide information about the specific individual with the specific licensure who approved that document and the specific date that that person approved it?

A. It does show that that particular document was approved by that particular engineer.

Q. Uh-huh. Now, did you have occasion to look at any of the engineering documents that were being submitted to the government to see -- or that were in BP's possession, whether or not they were submitted to the government, to see if they were sealed by an engineer?

A. Subpart h does not require us to submit sealed documents. There is no specific requirement for that type action.

MR. PERRY: Okay. I'm going to object to that because the answer is nonresponsive.

Q. (BY MR. PERRY) And I don't mean to be fussing at you, but I'm really not asking for the reason why you

did or didn't do what you did. What I'm asking is as a matter of fact, did you review any of the engineering documents that BP had for Atlantis to ascertain if they were sealed or not?

01:24 A. There would have been no reason for me to look for a seal when there is no requirement for a seal.

MR. PERRY: Well, I'm going to object to that as nonresponsive.

Q. (BY MR. PERRY) I'm going to try again. Did 01:25 you look at any of the engineering documents pertaining to Atlantis to ascertain if they had a seal on them or not?

A. I think my answer was clear, no, I did not because there's no -- was no requirement for me to look 01:25 for them. So it would -- logically, I would not have looked for something that does not have to exist.

Q. Well, I think that -- I think you have now told me that you did not look at any documents to see if they had a seal on them; that true?

01:25 A. Yes, I did -- I did state that, that I did not look for a seal because there is no requirement for me to look for a seal, so therefore it would be illogical for me to look for something that I did not have to look for.

01:25 Q. Did you have any discussion with anybody about

MR. HUNTER: Yeah, Dennis, I think in the set I had that wasn't in it, for some reason.

THE WITNESS: Okay, yeah. I'm familiar with it.

02:21 MR. HUNTER: You can just show him.

Q. (BY MR. PERRY) Just have a look at it.

A. Sure.

Q. And I'll read it into the record in a minute.

A. Okay.

02:21 Yes, okay.

Q. All right. Now, this statement is on a piece of letterhead that on the left-hand side has the BP logo and on the right-hand side has the Atlantis logo, and it reads, Per the requirements of 30 C.F.R. 250 point -- 02:22 Section 250.802(e)(5). This document certifies that the design for the mechanical and electrical systems for the Atlantis semi-submersible production unit, South Green Canyon Block 743 were reviewed and approved by registered professional engineers licensed in the state 02:22 of Texas.

A. Okay.

Q. Did I read that correctly?

A. Yes, you did.

Q. And it is not signed?

02:23 A. That's correct.

Q. Where did you obtain it?

A. It was the last page in the -- in the -- the binder that contained the drawings submitted with this particular submission --

02:23 Q. And --

A. -- August 1st, 2005 submission.

Q. And where did that -- who brought that binder to you? Did you prepare it?

A. No, I did not. That was brought to me, again, 02:23 by Ken DeJohn's group.

Q. Okay. And I guess there were some drawings in the binder?

A. There were.

Q. About how thick was the binder?

02:23 A. I would suggest probably 2 to 3 inches.

Q. Okay. And was it entirely engineering drawings, or was there a certain amount of just textural material that was, you know, for informational purposes?

A. There was a little bit of both. It was tabbed 02:24 or it is tabbed. We have a copy of it. And the last tabs says -- had a little statement called professional engineering statement.

Q. Let me back up here and refer you to page number Bates No. 82983, which is the previous page 02:24 and --

A. 983, yeah, I have that one.

Q. Is this the index or the table of contents to the binder?

A. This is a -- as I remember this being out of the file, this is a -- an attachment that I received from the engineering group prior to the preparation of the letter as to what would be given to me at the time that the document was to be submitted.

Q. So the binder was prepared by the engineering group?

A. That's correct. In fact, this list was also prepared by them, given to me in preparation -- in anticipation of the preparation for the correspondence.

Q. Okay. Is it your assumption that the engineering statement was prepared by someone in the engineering group at BP?

A. It was my understanding that that -- that came from -- let me see that document again, I'm sorry, the engineering statement.

Q. (Tenders document.)

A. It was my understanding this came from our engineering group in BP, that's correct.

Q. Okay. You did not have any understanding or belief that the engineering statement came from Mustang, for example?

A. I -- I believed it came from BP. I believe it was prepared by BP.

Q. You had no understanding or belief that it came from Technip?

02:26 A. No, I don't -- I have -- I have no reason to believe it would ever come from Technip.

Q. Okay. Next page in this exhibit is dated October 11, 2005.

MR. PERRY: Oh, by the way, let me make 02:27 something a matter of record, which I guess I already have, but I want to point it out. Most of the pages in this exhibit appear to be sequential Bates numbers, except that the engineering statement has a Bates number which is not sequential.

02:27 MR. HUNTER: Right. When -- when I pulled together the documents that he was given to review -- to copy to bring here today we had inadvertently left that out, and I made a copy -- you know, it's attached to that letter from Mike Saucier, dated July 21, 2010. So 02:27 I just copied that and slipped it in because it was part of what he reviewed in that place.

MR. PERRY: But just -- okay.

Q. (BY MR. PERRY) So just to be clear, Mr. Saucier?

02:27 A. Sustala.

THE STATE OF TEXAS :
COUNTY OF HARRIS :

I, PHYLLIS WALTZ, a Certified Shorthand Reporter, Texas Certified Realtime Reporter, Registered Professional Reporter, and Certified Realtime Reporter in and for the State of Texas, do hereby certify that the facts as stated by me in the caption hereto are true; that the above and foregoing answers of the witness, DENNIS SUSTALA, to the interrogatories as indicated were made before me by the said witness after being first duly sworn to testify the truth, and same were reduced to typewriting under my direction; that the above and foregoing deposition as set forth in typewriting is a full, true, and correct transcript of the proceedings had at the time of taking of said deposition.

I further certify that I am not, in any capacity, a regular employee of the party in whose behalf this deposition is taken, nor in the regular employ of his attorney; and I certify that I am not interested in the cause, nor of kin or counsel to either of the parties.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, on this, the 23RD day of [illegible] 2011.

Phyllis Waltz

PHYLLIS WALTZ, CSR, TCRR, RPR, CRR
TEXAS CSR NO. 6813
Expiration Date: 12/31/11

Worldwide Court Reporters, Inc.
Firm Certification No. 223
3000 Weslayan, Suite 235
Houston, Texas 77027
(713) 572-2000

EXHIBIT 29

IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF TEXAS
HOUSTON DIVISION

UNITED STATES OF AMERICA EX REL. KENNETH W. ABBOTT; KENNETH W. ABBOTT, INDIVIDUALLY; AND FOOD & WATER WATCH, INC.;	)	CIVIL ACTION NO. 4:09-CV-01193
Plaintiffs,	)	
VS.	)	
BP EXPLORATION AND PRODUCTION, INC., ET AL.;	)	
Defendants.	)	

ORAL AND VIDEOTAPED DEPOSITION OF
KENNETH DEJOHN
SEPTEMBER 14, 2011

ORAL AND VIDEOTAPED DEPOSITION OF KENNETH DEJOHN, produced as a witness at the instance of the Plaintiff and duly sworn, was taken in the above styled and numbered cause on September 14, 2011, from 9:03 a.m. to 3:15 p.m., before KATERI A. FLOT-DAVIS, CSR, CCR in and for the State of Texas, reported by machine shorthand, at the offices of Fulbright & Jaworski, LLP, 1301 McKinney, Ste. 5100,, Houston, Texas, pursuant to the Federal Rules of Civil Procedure and the provisions stated on the record herein.

engineer has done certain particular work?

MR. NESSER: Objection. Form.

A. Could you repeat the question. I don't understand the question.

Q. (BY MR. PERRY) Under the systems that are set up by the engineering industry, what is the mechanisms by which registered professional engineers sign off on or give an official indication that they have done certain work?

MR. NESSER: Objection to form.

A. I hired Mustang Engineering, which is a registered professional engineer. They're registered in the State of Texas. The company is run by professional engineers. We have 23 professional engineers associated with Atlantis.

MR. PERRY: Objection. Not nonresponsive.

Q. (BY MR. PERRY) Do you know if there is a recognized mechanism in the engineering industry by which a registered professional engineer certifies that they have done a certain piece of work?

A. They can stamp a drawing, if it's required.

Q. You would take it that if a registered professional engineer stamps a drawing with a seal, that engineer, that that is a certification that that engineer has done that work; is that true?

MR. NESSER: Objection to form.

A. There's other ways to certify it, also. Hiring Mustang Engineering is a certification.

Q. (BY MR. PERRY) Let's do one thing at a time. One question at a time.

The question that's pending right now that you haven't answered yet is: You would understand that if an engineer affixes his stamp and his signature to a certain drawing or a certain piece of work that that is a certification that that registered professional engineer has done that work? You would understand that, right?

A. That is one form of certification.

Q. Is there any other form of certification by a registered professional engineer that is authorized by law?

MR. NESSER: Objection to form.

A. Well, if I hire a registered professional engineer, Mustang Engineering is registered in the State of Texas, and they complete the work and approve the drawings, then that's a certification.

Q. (BY MR. PERRY) Well, if they stamp the drawings and if they're a registered professional engineer, of course, that would be back to the question we've already covered.

A. Stamping is not required.

Q. Well, sir, the question that I asked you is this: Do you have any knowledge of any mechanism authorized by law for a registered professional engineer to certify their work other than by putting their stamp on it?

MR. NESSER: Objection to form.

A. Yes. There's other ways to certify them.

Q. (BY MR. PERRY) What?

A. Well, by hiring a registered professional engineer and getting them to go through a work process, their internal work process, and approving a drawing at the end of the day, approving the drawing -- that is also a certification.

Q. Has Mustang told you -- has anybody at Mustang told you that you can consider any drawing to be certified that they produce without a stamp?

A. No one from Mustang has told me that.

Q. Has anybody told you that you can consider a drawing to be certified by a registered professional engineer if it does not have an engineering stamp on it?

A. Well, the -- it's not the drawings that need to be certified. It's the systems so it doesn't require a stamp. The regulations do not require stamps.

Q. Sir, I'm not -- I don't care whether it's a

drawing, a plan, a specification, a description of a system, a report or whatever the precise nature of the documentation may be.

My question to you is: Has anyone told you, anyone who purports to know, to be in authority, has anyone told you that you can consider any product of an engineering firm to be certified by a registered professional engineer when the written product does not have a stamp on it?

MR. NESSER: Objection to form.

A. Well, the BOEM investigation looked into that in detail and they thought the certification was adequate.

Q. (BY MR. PERRY) Well, anybody else?

A. No.

Q. Now, are you aware that people at Mustang who are registered professional engineers, most of them -- well, let me strike that.

Are you aware that registered professional engineers are certified by the State?

MR. NESSER: Objection to form.

A. Well, they're licensed by the State. I don't know about certified.

Q. (BY MR. PERRY) Licensed by the State. Thank you.

The way a person becomes a registered professional engineer is that they apply to the State Board of Engineering, they meet certain qualifications, they take a number of different tests, and if they are successful, they obtain a license as a registered professional engineer; isn't that true?

A. That's true.

Q. Are you yourself an engineer?

A. I have an engineering degree. I am not a registered professional engineer.

Q. What degree do you have?

A. I have a civil engineering degree from Penn State.

Q. In what year?

A. 1976.

Q. Have you ever applied to become a registered professional engineer?

A. I have not.

Q. Have you ever taken any of the tests, preparatory to becoming --

A. I have taken some preparatory courses, but I moved around quite a bit so I never had a chance to take it.

Q. Okay. I'm not fussing at you now but it's better to let me finish my question. Okay. So let me

practical to call it an As-Built at any one point.

A good example is at McDermott. The structural drawings -- they updated the drawings. They kept -- they had a team of engineers verifying and maintaining any red marks and updating the drawings.

If they updated the drawing while they're still at McDermott, the job can't get done because it's really not an As-Built. It's really not an As-Built. If you put As-Built multiple times, the P&IDs are up to Revision 15, some of them. It's not practical to say it's an As-Built at some point.

Really the definition of an As-Built is the current condition of the facility. And if you go and document them and you ask for that drawing, that's what comes up.

Q. I think I have learned from the people we've talked to earlier in the last week or so that the work that McDermott did on the Topsides, their fabrication was done in Louisiana, right?

A. Yes.

Q. And that the hull fabrication that DSME did was done in Korea; is that right?

A. Yes.

Q. And that the detailed drawing work that DSME did was done in Korea, right?

A. Yes.

Q. Now, both the hull, the fabricated hull that DSME created, was brought from Korea to Ingleside, Texas on Corpus Christie Bay to be integrated; isn't that right?

A. Yes.

Q. And the Topsides structure or the Topsides, including the structure, was, likewise, brought from Louisiana to Ingleside to be integrated into the hull; isn't that right?

A. Yes.

Q. And my understanding is that there was a team of engineers, workers and people who did extensive work to combine the Topsides and the hull and to integrate the two into one unified facility. Am I right about that?

A. Yes.

Q. And, naturally, in the course of doing that there were a lot of changes made in metal and stuff that had been fabricated before had to be changed in order to join the two together and make it into one unit, right?

A. Yes.

Q. And was there any kind of a BP document governing that integration as to how the handling of As-Built Drawings were going to be done and who was

going to do it?

A. We had a very large engineering team down at -- down in Ingleside, down at Kiewit.

We had one team was actually the Mustang folks and another team we had was ~~GBA~~ GVA (per changes/signature pg attached). And their sole purpose was to verify all the drawings, confirm their As-Built. They were there for a year and a half.

So we had a similar engineering team over at McDermott, and we had a similar, large engineering team, over in Korea, overseeing DSME's fabrication.

Q. Now, if I understand right, there was a system that was used that when the hull left Korea, that the people at DSME marked their drawings in a certain way -- I think it may have been called REV 60 -- as an indication that that was their as fabricated condition as they departed from Korea; is that right?

A. Correct.

Q. I don't remember that I have been told that McDermott did something similar. Did McDermott do something similar to that?

A. No. Because the -- at McDermott, Mustang Engineering was in the yard, they had a large engineering team in there and they were managing all the documentation. They were keeping red line sets. Doing management of change for any of the changes that were

required of McDermott.

Q. So, for example, with regard to the hull, I'm sure that some of the material that had been fabricated -- I think we've already talked about, some of the material that was fabricated in Korea had to be modified as part of the integration process, right?

A. Some things had to be changed.

Q. Some things, I presume, did not have to change?

A. Right.

Q. Now, there is a number of written procedures at BP about how an As-Built Drawing becomes an As-Built Drawing, isn't that right?

MR. NESSER: Objection. Form.

A. Not really. It's just an As-Built is the current condition of the facility. It's -- the drawing reflects what you actually have in the field.

(Exhibit No. 203 Marked)

Q. (BY MR. PERRY) What is the process of red lining used for?

A. Well, as you build, say, structural, you end up with small variations from the original design. So what you do is you keep all the red lines, any minor changes that are made as a part of the fabrication are put onto the red lines.

Q. Now, one of the documents that you're probably

they are the same, right?

A. Yes, sir.

Q. If they are the same, they can record that on the copy of the drawing, they're working copy that they're working from, right?

A. Right.

Q. If they are different, they go through a process called red lining, to record the differences, right?

A. Correct.

Q. Whether there's a change necessary or not, this allows them to reissue the next addition of the drawing, with or without a change, but to record that the new drawing correctly shows how the fabrication occurred, right?

A. No. Because if the drawing -- if the -- if you build it exactly the way the drawing showed it, there's no reason to revise the drawing because it is the current status.

Q. It might be that the only revision you make is to change a title, but the documents say that if the drawing is going to claim to be As-Built, we just read that it has to say "As-Built."

Now, I can find, if you want me to, several other documents that say that same thing. You know they

exist, don't you?

MR. NESSER: Objection. Form.

A. Well, as I said earlier, that's impractical -- with the job as long as it is, it's impractical to do that because all these drawings were issued multiple times. To call anything an As-Built, it's the current state of the facility.

Q. (BY MR. PERRY) Well, when I hear you say that it is impractical, what it conveys to me is that BP did not spend either the time or the money or the effort or the organizational skill to build the project the way its own documents say it had to be built.

But it is a fact that in one way or another the BP definition of "As-Built" as being a document that has the word "As-Built" it was not followed on this project, wasn't it?

MR. NESSER: Objection to form.

A. There is no broader BP requirement to put "BP" on the drawing. This is simply a guideline to put on the fabrication.

Q. (BY MR. PERRY) Well, wait a minute. We just read that BP requirement.

A. This is a fabrication document. It is not a BP document. It's not a BP requirement.

Q. Okay. The document we're looking at right now,

Project Orientation & Procedures Manual, is specific to Atlantis and it's specifically to set out a procedure for the fabrication contractor on this project, J.M. McDermott and Mustang Engineering, and their contractors and subcontractors and subgroups to use to mark up construction drawings as red lines or to convert them into as-builts.

That's what it says. That's what the words say. You're saying that it really was not required to be followed.

A. No. I -- go ahead.

Q. Is that right?

MR. NESSER: Objection. Form.

A. Well, I think what this document shows is a tremendous degree of rigor. We had 15 engineers in the field. We had a tremendous amount of As-Built, tremendous as any other project.

As I said, it's impossible to put "As-Built" on the drawing if you issued the drawing five times. Simply what they said is bumped the revision to the next division and issued. That portion is not a wider BP requirement. That is simply an Atlantis document. There is no BP requirement to put "As-Built" in there.

Q. (BY MR. PERRY) Well, actually this document

label. All they need to be is -- reflect the current -- the current condition of the facility in the field.

Q. (BY MR. PERRY) Let me just hand you two drawings. These are copies of something that has previously been marked as Discovery Exhibit 77.

Would you just look at those two drawings and tell me which one, or both or neither, truly reflects the condition of the item that they depict so that they would be considered to be As-Built.

MR. NESSER: Mr. Perry, do you have an extra copy of that drawing for me?

MR. PERRY: No, I don't have an extra copy. I had a copy for counsel -- well, here I do. I'm sorry. I do. Here you go.

MR. NESSER: Thank you.

A. Okay. To find the As-Built of this drawing, I would take this drawing number and put it in Documentum, and Documentum would put in the latest number of the drawing and put in the latest number of the drawing by definition.

Q. (BY MR. PERRY) But by looking at this drawing, you couldn't tell?

A. We depend on Documentum to maintain our as-builts.

Q. Okay. Now, these two drawings are a part of a

I know you just told me you didn't actually tabulate, when you're looking at what our tabulation turned up -- and I don't claim that we're exactly right. Okay? I mean, there's a lot of drawings that we might have made a mistake here.

But the result that the Mustang drawings, only about 1 percent of them have an "As-Built" mark on it, is about what you would expect, is it not?

MR. NESSER: Objection to form.

A. I don't even have an answer. I mean, not really what I would expect.

Q. (BY MR. PERRY) Did you expect that there would be more that had an "As-Built" mark or less?

MR. NESSER: Objection. Form.

A. How do I answer? I really don't have a thought on it.

Q. (BY MR. PERRY) Okay. Before I go on, let me go back and let's talk for a minute about the part below the line, which is out of Books 3 through 6.

The vast majority of the drawings listed out of those books come out of DSME, and you knew that DSME was the company that was doing the vast majority of the drawings on the hull system, did you not?

MR. NESSER: Objection. Form.

A. Yes.

Q. (BY MR. PERRY) Now, there's a company in Sweden called GBA, and you knew that they did some initial work to develop an overall, high-level design for Atlantis, right?

A. Yes.

Q. And then you knew that their work was taken and transferred to DSME so that DSME could do the detailed engineering work to make the broad concepts into sufficient detail to actually fabricate the hull, right?

MR. NESSER: Objection. Form.

A. Yes.

Q. (BY MR. PERRY) And then DSME did that work and they fabricated the hull, based on the detailed engineering work that they did in Korea, right?

A. Yes.

Q. Now, you also knew that BP had applied to the MMS and told the MMS that GBA, being located in Sweden, could not put an engineering stamp on their drawings because Sweden does not have a system of licensing registered professional engineers.

And you knew that Mr. Sustala had conveyed that information to MMS and had asked for an exemption for GBA, didn't you?

MR. NESSER: Objection. Form.

A. At the time I was not involved in it at all

objection if you want.

MR. NESSER: We'll make it continuous. Thank you.

Q. (BY MR. PERRY) This is the same kind of spreadsheet we just looked at it, except it deals with the context of Books 7 and 8 in Dr. Todd's production to the BOEMRE.

In Books 7 and 8 is the part -- is another part that was under your jurisdiction, was it not?

A. Yes.

Q. And Books 7 and 8 is drawings that pertain to the Product Safety System; is that right?

MR. NESSER: Objection. Form.

A. Production Safety System.

Q. (BY MR. PERRY) Production Safety System, okay.

Now, we went through and we counted the number of drawings that was produced and we found that the number of them that had PE Stamps on them was 0.

Does that surprise you?

A. No. PE Stamps are not required of the regulation.

Q. You understood that there weren't PE Stamps on them?

A. Yes.

Q. You had understood that for a number of years,

right?

A. Yes.

Q. And then we went and counted the number that said that they were marked "As-Built", and the number that was marked "As-Built" out of a total of 500 and some odd drawings, the total marked "As-Built" was 69.

Does that surprise you?

A. No.

Q. Okay. That's about actual -- actually, it's probably a surprise to you that there's that many that's marked "As-Built", isn't it?

A. No.

Q. Because if the process is to check every drawing, but you don't need to mark it As-Built, you wouldn't need to mark anything As-Built, would you?

A. Well, in certain cases the "As-Built" label was used, but it's not a regulatory requirement.

Q. Well, are you aware that BP, for reasons including reasons both regulatory reasons and safety reasons, that BP has published its own directives as to what documents are going to be As-Built?

MR. NESSER: Objection. Form.

A. I have no idea what you're talking about.

Q. (BY MR. PERRY) You didn't know that? For example, if you look at Discovery Exhibit 88 that is in

meeting the budgeting requirements, budget requirements -- what was your role in that?

A. Well, I was responsible for Topside Engineering and Topside Equipment Procurement.

Q. Okay. As a practical matter, did it mean that you were responsible for the contractors that were doing the Topside work?

A. For the -- related to the engineering and the procurement.

Q. Okay.

A. So all the equipment we bought, we bought compressors and pumps and --

Q. So, for example, Mustang and all of Mustang's work was something that -- it was part of your job to watch out for them and their contracts and their budgets and all that sort of thing?

A. Well, actually all the Purchase Orders, we had about 200 Purchase Orders and all that were on BP paper. But Mustang actually managed all the engineering, the vendor drawings, the approvals of the -- does that answer your question?

Q. Well, I got confused there.

As far as what you all were purchasing from Mustang -- was that something that was part of your responsibility?

A. The actual -- the actual engineering?

Q. The actual engineering services?

A. Yes, it was.

Q. Okay. And then as far as what you were purchasing through Mustang from their vendors -- was that also part of your responsibility?

A. Yes, it was, the equipment, yes.

Q. Okay. Now, Mustang, I presume, was on a Time & Materials basis; is that right?

A. Yes.

Q. And that means that they were billing their time by the hour?

A. Uh-huh.

Q. And they were billing for anything that was purchased? In terms of materials, they were billing that on probably a cost-plus basis of some sort?

A. Well, everything was on lump-sum Purchase Orders -- because this was for equipment that we were purchasing. It was for valves is --

Q. So you would get --

A. We would get multiple bids and we would go through a supply chain and process to select a bidder for compressors, pumps, valves, control valves.

Q. On the engineering services -- was the time of different people with different backgrounds and

different qualifications that worked at Mustang -- was their time billed at different rates?

A. Well, they had more experience and less experience than engineers.

Q. Sure. For example, I'm sure there were a number of people that worked there that were draftsmen and people like that, right?

A. Right. They had designers, pretty much, they called them designers because everything is done in the electronic world nowadays.

Q. And that would get billed at a certain rate?

A. Right. The designers had a certain rate. The engineers, senior engineer, would have a certain rate. A regular engineer would have another rate.

Q. So are designers ordinarily people that have an engineering degree?

A. Typically they don't. They just have CAD training and they're experienced in doing like a ~~PEMS~~ PDMS model, which is like a 3-D model. (Per changes/Signature pg attached)

Q. And as you move up the chain, you do have people that do have engineering degrees?

A. Right.

Q. But maybe they're younger and have less experience?

A. Right.

Q. And they would be billed at a rate greater less than a designer?

A. Yes.

Q. And you'd move up to senior engineers that have more years and more experience -- they would be billed at a greater rate?

A. Yes.

Q. Now, was there a particular rate -- or maybe more than one -- but were there particular rates associated with people who were registered professional engineers?

A. No. It was the same rate.

Q. The registered professional engineers got paid the same rate as any other engineer of the same time and experience?

A. There's no difference.

Q. Okay. Now, you said something earlier. I thought I heard you right, and on the other hand, I thought maybe I misunderstood and I wanted to double check this.

Is Mustang itself as a company a registered professional engineer?

A. Yes. They were registered with the State of Texas. Actually there's a letter that Mustang had sent Bryan Domangue, the BOEM, with the registration number

as provided to the BOEMRE.

Q. So they had both a group of people working for them who were registered professional engineers and they, as a company, are also registered professional engineers?

A. Yes.

Q. Did Mustang ever provide to you in writing a certificate with Mustang's seal on it that certified to anything?

MR. NESSER: I'm sorry. I don't know if I missed the last thing.

Q. (BY MR. PERRY) Did Mustang ever provide to BP any document that had a Mustang Engineering seal on it that certified to anything?

MR. NESSER: Objection. Form.

A. The certifications are really between BP and BOEM. The certifications are made by BP for Subpart H and Subpart I that were made by Mustang.

Q. (BY MR. PERRY) We're back into the deal that you're not asking the question that I asked.

The question I asked is this: Did Mustang ever provide to BP any certification of any of the work that was done on the Topsides Engineering in a document that had a BP seal on it?

MR. NESSER: You said BP seal on it?

MR. PERRY: I'm sorry.

Q. (BY MR. PERRY) Had a Mustang seal on it?

Thank you, Counsel.

A. No.

Q. Now, you did say that at some point you provided a document, I think you said, to MMS showing that Mustang itself was a registered professional engineer.

A. Yes.

Q. Do you know when that document was provided?

A. It was during the BOEM. The BOEM talked to several of the Mustang people. I think it was as a result of that, that letter was sent from -- from someone at Mustang to the BOEM.

Q. Okay. So that would have happened during the investigation?

A. Yes.

Q. Okay. Now, also during the investigation did you, yourself, get interviewed by BOEM?

A. Yes.

Q. And did you give them a statement in writing?

A. No statement in writing.

Q. Did you give them a statement where they sat down and talked to you, but they used a little recording device of any kind to make a record of what you told

documents as being required to be As-Built? Is that true as far as you know?

A. Well, no matter what this 8700 Document says, all those drawings were As-Built.

I realize this 8700 Document -- I realize we said that -- we did follow it, but it was actually, originally issued for Holstein for actually Handover to Holstein. It's not actually a BP requirement, world-wide document.

Q. When you all started out to do the integration, did you start out to have teams of people that would go over every part of the integrated facility and red line every document where a change had occurred?

A. Yes.

Q. And did you have those teams of people going over literally every part of the structure of the facility?

A. Well, for drawings that were -- that were As-Built at McDermott by Mustang or were -- were As-Built by DSME in Korea before Handover, it was all the changes to those drawings that had to be picked up on the red lines.

Q. Well, my question is: Did you start out by having teams check everything to make sure the drawings actually matched what was there?

A. We did on P&IDs. We walked over every P&ID and Korea updated the DSME ones, if they found any discrepancies. Mustang updated the Topside P&IDs.

And the structural drawings there were no changes. They were all updated as to McDermott or updated as to Korea. It was only the changes to those --

Q. So you had teams that specifically walked down the P&IDs?

A. Yes, sir.

Q. But then when it got to some other stuff, it wasn't necessary to actually check them against the drawings because everybody just knew they weren't changed?

A. Well, the structure was fabricated and updated at McDermott for Topside and the hull was fabricated and updated by DSME and Korea.

Q. And you all had found the discrepancies or some of the P&IDs or something you said and had been caught and had been corrected?

A. Right. And there were changes that were made to the -- to the hull systems that required updated P&IDs.

P&IDs were a very critical document to the safety of the facility so it was decided on the hull

P&IDs to do another verification of all hull P&IDs. We walked down all hull P&IDs in addition to the Topsides.

Q. When was all this going on? I think you said -- well, it was the early part of 2006, right?

A. Well, that was -- you know, the Topside was lifted onto the hull in July of 2005 so it was kind of between July 2005 and August 2006.

Q. Who is Les Gipson?

A. He's the production team lead.

MR. PERRY: I'm sorry. I was given a signal that we have to change the tape.

THE VIDEOGRAPHER: The time is 2:26 p.m. This is the end of Tape No. 4. We're off the record.

(Brief recess taken.)

THE VIDEOGRAPHER: The time is 2:34 p.m. This is the beginning of Tape No. 5. We're on the record.

Q. (BY MR. PERRY) Mr. DeJohn, during the Integration Process did there come a time where BP, for whatever reason, decided not to have these As-Built teams actually compare every single piece of structure against the drawing for that piece because a lot of them it knew that they hadn't changed since they had left Korea or since they had left New Orleans or where? Did

such a time occur?

MR. NESSER: Objection. Form.

A. Well, the drawings for the Topside had been As-Built at McDermott and the drawings for the hull had been As-Built in Korea. So really all that had to be updated were changes to the drawings.

Q. (BY MR. PERRY) So what you all decided to do is, instead of going over everything, you would just, with the As-Built teams, you would just have the As-Built teams go over stuff that you felt like had been changed and really needed to be As-Built, right?

A. No. What we went over were the things that we needed to start up because none of the systems had been started up in Korea. So that's why we went over all the P&IDs. We had a very thorough checking process as a part of our GOC and our commissioning.

And a part of that is marking up the P&ID and walking all the systems down. So there's no reason to go back and reverify all the structure which had been As-Built in the previous phase.

Q. And then somewhere along the line, according to BOEMRE, at least, BOEMRE tells us in their report, they say, "BP decided it was unnecessary to update drawings with an 'As-Built' stamp or label if the drawing had not been revised from earlier revisions."

Is that statement made by BOEMRE true?

A. Well, as long as -- as long as the drawing matched the current configuration in the field, they indicated in the report that that was acceptable. That that met the regulation.

Q. Well, the little statement that I read didn't actually say anything about matching the item in the field. I'll read it to you again but it's not really the point of my question.

The point of my question is: Did BP make a decision that it would not be necessary to update drawings if the drawing had not been revised from earlier versions?

A. I mean, the drawings for the hull had already been As-Built, for the hull structure --

Q. You're giving me your arguments. Okay? And that's -- they're your arguments, and you can give them to me when I ask you for them but that's not what I'm asking you for them right now.

I'm asking you right now: BOEMRE reports, in its report in black and white, that BP made a certain decision. I've read the BOEMRE words to you, and I'd like for you to tell me: Are you aware that such a decision was, in fact, made by BP management? Is that true?

A. I don't think there was a conscious decision made. I think it's just -- if it -- if the drawings reflected the current configuration in the field, then it was -- it was an As-Built and there could be no reason to reissue the drawing.

Q. Kind of the practice just moved off in that direction is what you're telling me without a conscious decision?

MR. NESSER: Objection. Form.

A. Well, I mean, there's no regulatory -- there's no requirement to put -- to relabel -- to reissue the drawings and relabel them as As-Built.

Q. (BY MR. PERRY) I'm not asking you about that. I'm asking you what the practice was and what you said was it wasn't a matter of a conscious decision, and I took it from that that the practice went in the way that BP indicated?

A. Yeah. There was no conscious decision. It's just that if the drawings were As-Built, they were As-Built.

Q. Now, actually, there was some concern pretty soon from some of the people there at BP and from some of the people at MMS that this wasn't -- you weren't getting done what all you needed; isn't that right?

MR. NESSER: Objection. Form.

for Holstein. We followed the intent of that. We used SPF, that was one of the major criteria in that.

We As-Built all the categories that were required in the document. We followed the intent of the As-Building. What we didn't do was put "As-Built" in the label but that's not required.

Q. (BY MR. PERRY) I want to know why --

A. There's no conscious decision.

MR. NESSER: Wait. I'm not sure who was finished with what at that time but let's both try to make sure we're not talking over each other.

Q. (BY MR. PERRY) I want to know why and when the change of direction occurred to not put "As-Built" on the front of the document.

MR. NESSER: Objection. Form.

A. It was never intended to put "As-Built" in the front of the document in the beginning of fabrication for Atlantis.

Q. (BY MR. PERRY) Well, in all fairness to you, the effect of what you have just said is that the words written by BP in its own document don't say what they say, and in all fairness to you, some people who hear that testimony might find it not credible.

So I want to give you one more opportunity, and if you want to not take it, that will be your

choice. But I want to give you one more opportunity, as the official designated corporate representative of the BP companies on this subject, to tell me and the judge and the jury when and how BP changed its direction from the one to put the word "As-Built" on the documents, if they were, as it says in the exhibit that you told MMS was followed to the concept that BP now proclaims, which is, it does not need to have that word on the front of the documents.

MR. NESSER: He doesn't need to answer that question again.

You don't need to answer it again.

Q. (BY MR. PERRY) I'm waiting for your answer.

MR. NESSER: He's not going to answer it again.

MR. PERRY: Are you instructing him not to answer?

MR. NESSER: I'm instructing him not to answer it.

He gave you a very clear answer. If you're not happy with it, there's not much I can do about it. He very clearly give you gave you an answer to it. We can scroll back and look at it.

MR. PERRY: I will say to you, Counsel, the issue is not whether I'm clear to you on the record.

CHANGES AND SIGNATURE

WITNESS NAME: KENNETH DEJOHN

DATE OF DEPOSITION: 09-14-11

PAGE LINE	CHANGE	REASON
27-24	change "Holstin" to "Holstein	Misspelled
27-25	change "Nakeke" to "Nakika	misspelled
43-5	Change "GBA" to "GVA"	misspelled
74-9	Change "mission" to "Commissioning"	misspelled
105-18	Change "PEMS" to "PDMS"	misspelled
117-20	Change "go" to "show the documents" - Clearer	

I, KENNETH DEJOHN, have read the foregoing deposition and hereby affix my signature that same is true and correct, except as noted above.

Kenneth DeJohn

KENNETH DEJOHN

THE STATE OF Texas)
COUNTY OF Harris)

Before me, Kenneth DeJohn, on this day personally appeared KENNETH DEJOHN, known to me (or proved to me under oath or through professionally) (description of identity card or other document)) to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that they executed the same for the purposes and consideration therein expressed.

Given under my hand and seal of office this 27th day of September, 2011.

Betty J. Heinsohn

BETTY JEAN HEINSOHN
Notary Public, State of Texas
My Commission Expires
November 22, 2014

NOTARY PUBLIC IN AND FOR
THE STATE OF Texas
COMMISSION EXPIRES: November 22, 2014

IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF TEXAS
HOUSTON DIVISION

UNITED STATES OF AMERICA EX REL. KENNETH W. ABBOTT; KENNETH W. ABBOTT, INDIVIDUALLY; AND FOOD & WATER WATCH, INC.,	)	
PLAINTIFFS,	)	CIVIL ACTION
VS.	)	NO.: CIVIL ACTION NO. 4:09-CV-01193
BP EXPLORATION AND PRODUCTION, INC., ET AL.,	)	
DEFENDANTS.	)	

REPORTER'S CERTIFICATION
ORAL AND VIDEOTAPED DEPOSITION OF
KENNETH DEJOHN
09-14-11

I, Kateri A. Flot-Davis, Certified Shorthand Reporter in and for the State of Texas, hereby certify to the following:

That the witness, KENNETH DEJOHN, was duly sworn by the officer and that the transcript of the oral deposition is a true record of the testimony given by the witness;

There was a request for examination and signature of the witness to the deposition transcript. The

original transcript was sent for review on September 20, 2011 to the witness or to the attorney for the witness for examination, signature and return to me by October 20, 2011;

I further certify that I am neither counsel for, related to, nor employed by any of the parties or attorneys in the action in which this proceeding was taken, and further that I am not financially or otherwise interested in the outcome of the action.

Certified to by me this 14th of September, 2011.

Kateri A. Flot-Davis

Texas CSR No. 8462

Expiration Date: 12-31-11

EXHIBIT 30

IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF TEXAS
HOUSTON DIVISION

UNITED STATES OF AMERICA EX REL. KENNETH W. ABBOT; KENNETH W. ABBOT, INDIVIDUALLY; AND FOOD & WATER WATCH, INC.,	)	
PLAINTIFFS	)	CIVIL ACTION NO.:
	)	4:09-CV-01193
VS.	)	
	)	JURY DEMANDED
BP EXPLORATION AND PRODUCTION INC., ET AL.,	)	
DEFENDANTS	)	

****

ORAL AND VIDEOTAPED DEPOSITION OF SIMON P. TODD
DECEMBER 5, 2011
VOLUME 2

****

ORAL AND VIDEOTAPED DEPOSITION of SIMON P. TODD, produced as a witness at the instance of the Plaintiff, and duly sworn, was taken in the above-styled and numbered cause on December 5, 2011, from 9:10 a.m. to 3:54 p.m., before Tammy S. Brown, CSR in and for the State of Texas, reported by machine shorthand, at the offices of Fulbright & Jaworski, LLP, 1301 McKinney Street, Suite 5100, Houston, Texas, pursuant to the Federal Rules of Civil Procedure and the provisions stated on the record.

okay? And that's fine. And we can debate that down at the courthouse.

But what I'm asking right now is with respect to as-built drawings, whether they're stamped or not or you're in an as-builting process, as you say, why is that an important thing to have? What's the justification for the requirement in the first place, as far as you understand it?

A. As far as I understand it, it's important to have available the most up-to-date, most accurate drawings or documents to represent the process system in order that the operators can discharge their accountability in terms of delivering safe -- safe and reliable operations; and that the engineers are able to -- be if there are modifications or further developments on an accurate description of what -- what -- as is in the field.

Q. Okay. Let's -- let's flesh out that for a minute. People understanding what the actual condition of the componentry that they're dealing with can turn in to a safety critical issue in the event of a crisis. True?

MR. DENNY: Objection, form.

A. I'm sorry. Could you rephrase the question?

Q. (BY MR. WATTS) Sure. Having as-built drawings so that operating personnel can know exactly what the component's condition is that they are dealing with is a

safety critical requirement in the event of responding to a crisis?

MR. DENNY: Objection, form.

A. Yes. I'd agree with that. And I would also say that it's important even for non-crisis operations.

Q. (BY MR. WATTS) Let's use one example of a crisis, and then I'm going to talk to you about non-crisis operations and why that's important.

You know a gentleman by the name of Harry Thierens?

A. Yes, I do.

Q. You know that even though he had been transferred out of the Gulf of Mexico prior to the DEEPWATER HORIZON incident, he had happened to be in Houston, Texas, when that incident happened, right?

A. I don't know that, no.

Q. Have you become aware that for several hours after the oil spill began on Macondo, that the inability to obtain as-built drawings caused the intervention efforts to take place not knowing about a conversion of some of the BOP rams to a test ram? Did you know about that?

A. I didn't know about the details. I do remember some comments being made in one of the early joint -- joint U.S. Coast Guard/MMS investigation boards to that

MR. DENNY: Objection, form.

A. For the systems that we're required by regulation to have the design of those systems approved or overseen by Registered Professional Engineers, the answer is yes.

In terms of the context -- precise context of your question around approval of individual drawings, no, particularly with systems that are not associated with the -- the regulations.

Q. (BY MR. WATTS) What -- what is your understanding as to which systems require approval and being overseen by Registered Professional Engineers?

A. There are certain mechanical and electrical systems within the -- within the Production Safety System in its entirety. And it's not just engineers, there's a whole list of different authorities like naval architects, and so forth, that -- that were required to oversee certain structural aspects of offshore facilities.

Q. Okay. Let me take that last answer and see if I can get a precise -- is it true that with respect to the mechanical and electrical systems on the Production Safety System for ATLANTIS that the drawings for those systems have been approved by Registered Professional Engineers?

MR. DENNY: Objection, form.

A. Again, the design development of those systems that those drawings refer to are -- was overseen and

approved by registered engineers; and, hence, the drawings as an accurate description of those systems would, you know, have the same -- I'm sorry, I can't think of the word I'm looking for -- but they would be a representation of those approved systems.

Q. (BY MR. WATTS) Okay. But that wasn't my question. My -- my question was: Were the drawings for the mechanical and electrical systems within the Production Safety Systems, were the drawings themselves specifically approved by Registered Professional Engineers?

MR. DENNY: Objection, form.

A. Okay. I see where you're -- what you're asking now. Within -- within Mustang, overseen by BP, as the drawings for those electrical and mechanical systems within the production system were developed, that process -- there's a detailed process within Mustang that drawings were checked and then rechecked by a hierarchy of document control engineers and supervision within -- within Mustang.

Mustang, itself, is a registered engineering company and there's -- on ATLANTIS, there were quite a number of registered engineers within -- within the -- the group working on that. And all of those processes underpinned why I certified to the cert-- recertification

that I provided to Mr. Saucier on August 9th.

Q. (BY MR. WATTS) Okay. Let me see if I can ask the question a little more specifically. Let's see if we can just break it down part by part. Where were the mechanical and electrical systems for the Production Safety System fabricated?

MR. DENNY: Objection, form.

A. The -- well, I -- I don't know the precise answer to that, because the componentry would have been fabricated in many different places. What I do know is that the topsides modules for ATLANTIS were fabricated as modules in Morgan City in the McDermott yard.

Q. (BY MR. WATTS) Okay. As they were fabricated, were they fabricated pursuant to drawings?

A. Yes.

Q. Who developed the drawings?

A. It's a combination, I believe, of not only Mustang, who we mentioned earlier -- well, which part of the facility are we talking about? Topsides?

Q. Yeah.

A. Yeah. So, Mustang were involved in that as the design firm, and KBR were also involved in the fabrication -- detailed engineering fabrication.

Q. Okay. Were those drawings for the mechanical and electrical systems within the Production Safety System,

were those drawings certified by Registered Professional Engineers?

MR. DENNY: Objection, form.

A. They're -- if I -- you know, if I understand what you mean by "certification," their production, development and approval involved certified -- sorry -- professional engineers and company -- at least one company that had engineering certification, that was Mustang.

Q. (BY MR. WATTS) When did Mustang begin its contract with BP on ATLANTIS?

A. I don't know. Early 2000s, something like that.

Q. Okay.

THE VIDEOGRAPHER: Two minutes.

Q. (BY MR. WATTS) Were the drawings that were prepared by KBR certified by Registered Professional Engineers?

MR. DENNY: Objection, form.

A. Again, I can't answer that question accurately, Mr. Watts, because I'm unsure in my own head which -- at this point, which drawings were relevant and pertinent to the Production Safety System; and therefore, the associated electrical and mechanical that would have been under the -- the purview of Mustang and which were simply construction and fabrication drawings with components that KBR were looking after.

Q. (BY MR. WATTS) Okay.

A. I would -- what I would have to do is go back and look at that in some detail.

Q. What company fabricated the hull for ATLANTIS?

A. DSME.

Q. Was the hull for ATLANTIS fabricated pursuant to drawings?

A. Yes, it was.

Q. Who created the drawings for the hull for the ATLANTIS platform?

A. I do know that the original design for the semisubmersible was developed by GVA.

Q. Who did -- who did the detailed engineering for the hull?

A. Then the detailed engineering for fabrication was largely done by DSME with, I believe, some oversight from both BP and GVA.

Q. Did the detailed engineering done by DSME, was that done pursuant to drawings?

A. I believe so, because I've seen the subsequent drawings.

Q. Were the drawings for the detailed engineering conducted by DSME certified by Registered Professional Engineers?

MR. DENNY: Objection, form.

A. The original -- the original development and design of the drawings associated with the floating system, let's say the -- the hull, were overseen by both G-- GVA and DSME.

Q. (BY MR. WATTS) I'm not asking about the basic engineering, I'm asking about the detailed engineering for the hull. Were the drawings for the detailed engineering used to fabricate the hull by DSME, were those drawings certified by Registered Professional Engineers?

MR. DENNY: Objection, form.

A. It's a difficult question to answer, because the -- both GVA and DSME are non-U.S. companies, and therefore, don't have that --

Q. (BY MR. WATTS) Certification?

A. -- phrase or terminology in terms of professional engineers.

Q. So, DSME, whatever personnel it used to create the detailed engineering drawings for the hull, were not certified by Registered Professional Engineers. True?

MR. DENNY: Objection, form.

A. No. No, that's not true, because what I'm trying to explain to you is that given they weren't U.S. or, specifically, Texan, they -- they wouldn't recognize that professional accreditation that we have here in the United States.

Q. The detailed engineering took place by DSME over in Korea?

A. I understand that -- that it was at -- not just DSME, that GVA remained involved, as did BP.

Q. Okay. With respect to the detailed engineering that occurred, do you know what part of the ATLANTIS hull that DSME did the detailed engineering for?

A. No, I wouldn't know the detailed boundary limits on that.

Q. Do you know whether at the time that the drawings, prepared by DSME for the DS-- for the detailed engineering of the hull on ATLANTIS were prepared, whether or not a Registered Professional Engineer certified those drawings?

A. No, I don't know.

Q. Okay. Did BP have a Registered Professional Engineer in Korea certifying drawings being created by DSME for its detailed engineering?

A. I don't know about the detailed processes.

Q. Okay. Did BP ever ask for a waiver of the Code of Federal Regulation requirements with respect to certification by engineers?

MR. HUNTER: Object-- Objection, form.

A. What I do know, Mr. Watts, is that there was a request made of the MMS with respect to the involvement of

A. Yes.

Q. Okay. Fair enough. Now, THUNDER HORSE was fabricated before ATLANTIS, right?

A. Correct.

Q. I seem to --

A. Before and possibly contemporary to, but started before for sure.

Q. Yes, sir.

A. Yeah.

Q. And I saw a document -- and I apologize, I don't have it, it's not that important -- but -- but I saw a DSME contract that said it was entered into as kind of a change order on the THUNDER HORSE contract, is the reason I brought up THUNDER HORSE.

Were -- were you, when you -- either in your hat as Vice President of ATLANTIS or subsequently as Vice President of THUNDER HORSE, have you seen the contractual documents between DSME and BP?

A. No.

Q. Did BP ever notify the MMS that DSME was doing the detailed engineering on ATLANTIS?

A. I mean, again, because I wasn't around, I can't definitively say yes or no. I imagine they did but --

Q. Well --

A. -- I -- I don't know for sure.

Q. Other than imagine they did, can you point me to a document that --

A. No, I can't. That's my point.

Q. Yeah. Have you ever seen a document that indicates or documents that the MMS was ever informed by BP that DSME, over in Korea, was the entity doing detailed engineering on ATLANTIS?

A. No, I don't recall seeing such document.

Q. Have you ever seen such a document notifying the MMS that DSME was doing the detailed engineering on THUNDER HORSE?

A. No.

Q. Okay. Let me show you a document that I'll mark as Exhibit 383.

(Exhibit 383 marked.)

Q. (BY MR. WATTS) This is an e-mail from Bill Naseman to Alastair Taylor on March the 5th of 2008. Had you ever seen this document before?

A. Nope.

Q. Who is Alastair Taylor?

A. Alastair is an engineer that, at this time, was the facilities manager for -- Facilities Engineering Manager for ATLANTIS.

Q. Okay. And the Facilities Engineering Manager at ATLANTIS would have what job duty?

asked, and he can decide whether he wants to answer it or -- you know, I mean, there's going to be a trial and I'm going to -- you're going to have to answer this eventually.

Q. (BY MR. WATTS) So, here's my question and -- and we can argue about the propriety of it later, but I need a factual answer to a very specific question.

It is true that the ATLANTIS drawings are not clearly identified as, quote, As-built, close quote, on the drawing --

MR. HUNTER: Objection, form.

Q. (BY MR. WATTS) -- is that true?

MR. HUNTER: Objection, form.

A. No, I think to the -- to anybody that wants to use the drawings, an engineer or an operations person, he or she, by extraction from Documentum and from interpretation of the title stamp, can establish their as-built nature or not.

Q. (BY MR. WATTS) Can they -- can they do that by looking at the document alone?

A. In -- no, they would simply have to go to Documentum and see which Rev of the document Documentum would provide as the latest, most accurate, most up-to-date drawing.

Q. Do you know whether the ATLANTIS specification

Engineering by BP comply with the requirements of this topsides design engineering and project services contract with respect to stamping "as-built" on the drawings?

MR. HUNTER: Objection, form.

A. I don't know the answer to that question.

Q. (BY MR. WATTS) Okay. Fair enough.

A. That's quite far back in the genealogy of ATLANTIS.

Q. Okay.

MR. DENNY: Your stack's getting smaller.

MR. WATTS: Okay.

A. Are we finished with this one?

Q. (BY MR. WATTS) We are. Thank you. Let me ask you this: In your letter to Bryan Domangue on August the 25th, you -- you say, for example, some of the hull drawings used Revision 60 to denote as-built status while some of the topside draw-- drawings used Revision 5.

A. (Witness nodded head).

Q. Have you seen a contract with DSME calling for them to use "Revision 60" as opposed to "as-built"?

A. No.

Q. Have you seen a contract with Mustang Engineering calling for them to use "Revision 5" as opposed to "as-built" on the drawing?

A. No.

Q. (BY MR. WATTS) -- Exhibit 404, is this an e-mail chain that eventually reached you on April the 20th of 2010?

A. That's an interesting date.

Q. It sure is.

A. Well, it's got -- it's got my name on the top of it. I don't actually have a very good recollection of it --

Q. Okay.

A. -- to be frank.

Q. Bottom line is, with most e-mail chains, if you start at the bottom --

A. Yeah.

Q. -- at 7:56 in the morning, Ron Berger writes an e-mail about subsea as-builts. He said, "I heard from somebody that y'all don't know how to access subsea as-built drawings. As for as-builts, this is my suggestion."

Do you see this?

A. Yes, I do. Yeah.

Q. And he's saying, Hey, if you need something off this drawing, go to Documentum and get it?

A. Yeah.

Q. Now, it goes up and Barth Roades writes, among other things, I went out to Documentum in the Deepwater

Development folder, found where the subsea drawings are located, very difficult to find what you're looking for.

Do you see that?

A. Yes, I do. Yeah, this is --

Q. And that --

A. -- coming back to me now.

Q. -- that goes to Bill Broman who says, "I don't know about SPF."

What is SPF?

A. SPF is a search engine, I think --

Q. Yeah.

A. -- for looking in Documentum.

Q. And then you write, "See the e-mail train below - supports my suggestion to you that the ops folks offshore could do with some refreshing"?

A. Yeah.

Q. That means they need to be trained on how to utilize SPF to access documents off of Documentum, right?

MR. HUNTER: Objection, form.

A. I'm not sure that -- yeah. Frankly, this was a bit of a head-scratcher to me because I wasn't -- I was surprised by the comments further in -- in the -- below in the e-mail; but I thought, well, regardless of the -- regardless of the source or cause of the comments, some refreshment is -- is required.

And Bob was working within my organization, I think, at that time, and hence my request to him.

Q. (BY MR. WATTS) Well, when you said the ops folks offshore could do with some refreshing, you -- you wrote that about 13 hours before the Macondo oil well blew out?

MR. HUNTER: Objection, form.

Q. (BY MR. WATTS) Right?

A. The e-mail is dated April 20th, 9:28.

MR. WATTS: Okay. Those are all my questions. Thank you.

MR. DENNY: Thanks a lot, guys.

THE VIDEOGRAPHER: Off the record, 3:54.

(Proceedings concluded at 3:54 p.m.)

SIMON P. TODD, having read the foregoing deposition and hereby affix my signature that same is true and correct, except as noted above.

SIMON P. TODD

THE STATE OF Texas)

COUNTY OF Harris)

Before me, Jane C. Wallace, on this day personally appeared SIMON P. TODD, known to me (or proved to me under oath or through _____ _____) (description of identity card or other document) to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that they executed the same for the purposes and consideration therein expressed.

Given under my hand and seal of office this 9th day of January, 2012.

Jane C. Wallace
NOTARY PUBLIC IN AND FOR
THE STATE OF Texas

JANE C. WALLACE
Notary Public, State of Texas
My Commission Expires
June 17, 2015

IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF TEXAS
HOUSTON DIVISION

UNITED STATES OF AMERICA EX REL. KENNETH W. ABBOT; KENNETH W. ABBOT, INDIVIDUALLY; AND FOOD & WATER WATCH, INC., PLAINTIFFS	)	CIVIL ACTION NO.: 4:09-CV-01193
VS.	)	JURY DEMANDED
BP EXPLORATION AND PRODUCTION INC., ET AL., DEFENDANTS	)	

REPORTER'S CERTIFICATION
ORAL AND VIDEOTAPED DEPOSITION OF SIMON P. TODD
VOLUME 2
DECEMBER 5, 2011

I, Tammy S. Brown, Certified Shorthand Reporter in and for the State of Texas, hereby certify to the following:

That the witness, SIMON P. TODD, was duly sworn by the officer and that the transcript of the oral deposition is a true record of the testimony given by the witness;

That the deposition transcript was submitted on December 12, 2011 to the witness or to the attorney for the witness for examination, signature and return to me by January 11, 2012;

That the amount of time used by each party at the deposition is as follows:

Mr. Jonathan A. Hunter - 00:00

Mr. Otway B. Denny, Jr. - 00:00

Mr. Mikal C. Watts - 05:04

Mr. George Gray - 00:00

That pursuant to information given to the deposition officer at the time said testimony was taken, the following includes counsel for all parties of record:

Mr. Mikal C. Watts appearing for Plaintiff(s);

Mr. George Gray appearing for Plaintiff(s);

Mr. Jonathan A. Hunter appearing for the Defendant(s) BP P.L.C., BP America, Inc., BP Exploration & Production, Inc., and BP Products North America, Inc.;

Mr. Otway B. Denny, Jr. appearing for the Defendant(s) BP P.L.C., BP America, Inc., BP Exploration & Production, Inc., and BP Products North America, Inc.;

That a copy of this certificate was served on all parties shown herein.

I further certify that I am neither counsel for, related to, nor employed by any of the parties or attorneys in the action in which this proceeding was taken, and further that I am not financially or otherwise interested in the outcome of the action.

Further certification requirements pursuant to the Rules will be certified to after they have occurred.

Certified to by me this 7th day of December, 2011.

Tammy S. Brown, Texas CSR 3269, RMR
Expiration Date: 12/31/11
Worldwide Court Reporters, Inc.
Firm Registration No. 223
3000 Weslayan, Suite 235
Houston, Texas 77027
800.745.1101

FURTHER CERTIFICATION PURSUANT TO THE RULES

The original deposition (was) was not returned to the deposition officer on January 9, 2011;

If returned, the attached Changes and Signature page contains any changes and the reasons therefor;

If returned, the original deposition was delivered to Mr. Mikal C. Watts, Custodial Attorney;

That a copy of this certificate was served on all parties shown herein.

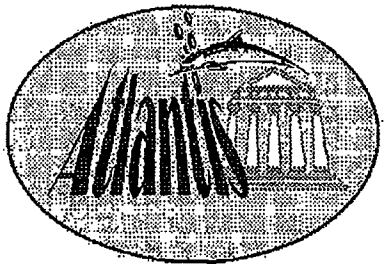
Certified to by me this 17th day of January, 2012.

Tammy S. Brown, Texas CSR 3269, RMR
Expiration Date: 12/31/11
Worldwide Court Reporters, Inc.
Firm Registration No. 223
3000 Weslayan, Suite 235
Houston, Texas 77027
800.745.2009

EXHIBIT 31

Discovery Ex. No. **262**
Cause No.
4:09-cv-01193
Abbott v. BP

Gulf of Mexico Deepwater Development



Atlantis Project
FLOATING SYSTEMS TEAM
PROJECT EXECUTION PLAN

DOCUMENT NUMBER: 1440-50-PM-PR-0100

REV	DATE	DOCUMENT STATUS	ORIGINATOR	CHECKED	APPROVED
B	12-Jun-03	Issue for Approval	Various	D Barton	S. Homer
A	29-Apr-03	Draft	Various	D Barton	

Document Control Number	Job Number	Area/Unit Designation	Discipline Code	Document Type	Sequence Number	Document Revision
	1440	50	PM	PR	0100	B

- Design an efficient, easily constructed structure with adequate strength and fatigue characteristics to support the required payload, resist extreme (100-year) metocean events and ensure fatigue resistance for intended service life
- Mooring system capable of maintaining station in extreme metocean events and meeting the offset limitations of the production and export riser systems
- Reliable, safe and functional utility, marine and safety systems
- Overall layout, accommodation and hotel facilities designed to promote safety, comfort and efficiency of operational staff
- Compliance with BP Specifications, ABS Classification Rules and applicable US Regulations

The basic hull design will be developed to a sufficient level to enable shipyard detail engineering to progress efficiently and to ensure the major interfaces with topsides and subsea delivery teams are defined. Further, the basic engineering scope will fully define all elements of the design relating to hull integrity. The mooring and anchor designs will be fully developed to allow for detailed engineering and manufacture by selected vendors. A complete list of Basic Engineering deliverables can be found in Reference 2.

2) Detail Engineering, Fabrication and Transportation of the PQ Hull

Daewoo Shipbuilding and Marine Engineering (DSME) will perform the detail engineering design, fabrication engineering, fabrication and commissioning of the Atlantis PQ hull at their facility in Okpo, South Korea. The hull will be dry-transported from Okpo to the Gulf of Mexico where DSME will deliver the hull to BP. DSME is responsible for an analogous scope of work for the Thunder Horse project and will perform the Atlantis work as an extension of the Thunder Horse contract.

Using the work developed during basic design, DSME will verify and develop all necessary detail engineering, computer models and drawings required to fabricate the hull and deck box. As part of the work, DSME will specify, procure and supply vendor documentation for all items designated as "Builder-Furnished Equipment" (BFE) as well as all bulk materials. All equipment and associated vendor documentation furnished by BP (Owner-Furnished Equipment) will be received, inspected, stored and incorporated in the work on an agreed schedule.

DSME will fabricate and assemble the complete hull, including all structure, equipment, piping, instrumentation, cabling and outfitting. After the hull is assembled and mechanically complete, the hull marine, utility and safety systems will be commissioned and appropriate tests and trials performed. During the commissioning of the hull, an inclining test will be executed to verify the weight and center of gravity of the hull.

Following the completion of commissioning activities, the hull will be preserved and prepared for transport. As a subcontract to DSME, a transportation contractor will deliver the hull to the Gulf of Mexico on a heavy lift vessel and it will be offloaded at an agreed location.

Throughout detail engineering and fabrication, the FST will monitor progress and HSE activities in the yard through a dedicated FST site team. The site team along with home office support will also monitor quality, weight reporting/control, regulatory compliance, interface management, commissioning planning and will liaise with other delivery teams. The FST will also provide all technical support needed for fabrication of the hull. The execution plan for hull detailed engineering and fabrication is described in more detail in Section 9 of this document.

9.3.8 Delivery and Acceptance

The Hull is scheduled to be delivered at the Integration/Lift Yard in Corpus Christi in May, 2005. Custody of the hull is transferred by DSME to the Integration Yard according to the procedure defined in Section 10.2. Acceptance of the Hull by BP will take place after final custody transfer to the Integration/Lift Yard and conclusion a thorough inspection where all outstanding items are highlighted, signed off or otherwise agreed upon.

9.3.9 Interfaces

The primary interface between FST and DSME regarding technical issues will be the Site Team where the Site Manager is responsible for all formal contacts with DSME. In addition, DSME will be responsible for interfacing directly with other delivery teams in the Atlantis project. However, the site team shall be kept informed of all contacts between DSME and the other delivery teams or the FST in Houston. Further discussion of DSME interface procedures is provided in the "*Site Team Execution Plan*" (Ref. 18).

9.4 Detail Engineering Plan

9.4.1 Scope of Work

DSME will be responsible for verifying and refining the Basic Design deliverables to produce all detailed engineering deliverables required to support the fabrication, commissioning and transportation of the Atlantis Hull. The main elements of DSME's scope for detail engineering include the following:

- Detailing of Basic Design information.
- Incorporation of OFE and BFE vendor data in Detail Design.
- Procurement of Builder Furnished Equipment and bulk materials.
- Produce all information necessary to fabricate, commission and transport the hull.
- Weight Control
- Obtain classification and regulatory approval of the design drawings and calculations.

9.4.2 Execution Plan and Schedule

DSME's plan and schedule for executing the detail design is presented in "DSME Project Execution Plan" (Ref 17). DSME's execution plan centers around the development of a 3-D CAD model using the Tribon 3D system. All structural steel, piping, cabling, HVAC ducts and other system components will be incorporated in the 3-D model. The model is then used to extract information required for fabrication. Engineering work is scheduled according to the level of information incorporated in the 3D model and is broken down into the following major milestones:

- IDC 50% complete engineering
- IFA 80% complete engineering
- AFC I 90% complete engineering
- AFC II 100% complete engineering
- Production Engineering

Formatted: Bullets and Numbering

EXHIBIT 32

From: LPekel@eagle.org
Sent: Tuesday, November 26, 2002 1:56 PM
To: Sustala, Dennis R <sustaldr@bp.com>
Subject: Re: Verification vs. Certification

Dennis,

no, I don't think that it covers the owner's obligation. Actually that was the answer I was going to send back to you. We do not sign "off" on the design, that is the designers responsibility, we only verify as is in 30 CFR 250.902 and further is specified and that does not necessarily cover all of 901. Like I said, we don't require a PE to sign it off on the designers side, but it might well be that you have to looking at the MMS requirements.

regards

Lynnda Pekel

Project Manager
Engineering Management ABS Americas
Phone: 281-877-6213 Fax: 281-877-6797

Did you know that ABS posts Regulatory Information & Updates on our website?

"Sustala, Dennis R" <sustaldr@bp.com>

26-11-02 12:48 PM

To: "'LPekel@eagle.org'" <LPekel@eagle.org>
cc:
Subject: Verification vs. Certification

What in ABS opinion as to the difference between Design Verification by the CVA found in 250.903 and Certification of Plans and Specifications by the operator found in 250.901?

Does the ABS review cover drawings described in 250.901 (b)(1)(iii) i.e. plats, front and side elevations of the entire platform, and plan views that clearly illustrate essential parts, i.e., number and location of well slots, design loadings of each deck, water depth, nominal size and thickness of all primary load-bearing jacket and deck structural members, and nominal size, makeup, thickness, and design penetration of piling .... as well as "specifications" part of the ABS Design Verification Process?

In other words do you believe that the design verification process conducted by the ABS covers our (operator's) obligation to certify plans and specifications found in 250.901?

EXHIBIT 33

From: Sustala, Dennis R
Sent: Tuesday, November 26, 2002 4:28 PM
To: 'LPekel@eagle.org'
Subject: RE: Verification vs. Certification

As you know, there are several sets of documents being prepared for this project.

IDE (Issued for Detailed Engineering) from GVA for DSME (Daewoo in Korea)
AFC (Approved For Construction)
As-built drawings.

Which of these drawings/ plans/ specifications are reviewed as part of the CVA Verification Report? I would assume the IDE prepared by GVA.

Based on your previous project experiences... which drawing levels require MMS Certification Requirements on the part of the operator? IDE only, IDE, AFC , or IDE, FC, and /or as-built?

Finally - check out my first questions for the day concerning a straight forward statement in the Design Report to the MMS.

-----Original Message-----
From: LPekel@eagle.org [mailto:LPekel@eagle.org]
Sent: Tuesday, November 26, 2002 12:56 PM
To: Sustala, Dennis R
Subject: Re: Verification vs. Certification

Dennis,

no, I don't think that it covers the owner's obligation. Actually that was the answer I was going to send back to you. We do not sign "off" on the design, that is the designers responsibility, we only verify as is in 30 CFR 250.902 and further is specified and that does not necessarily cover all of 901. Like I said, we don't require a PE to sign it off on the designers side, but it might well be that you have to looking at the MMS requirements.

regards

Lynnda Pekel

Project Manager
Engineering Management ABS Americas
Phone: 281-877-6213 Fax: 281-877-6797

Did you know that ABS posts Regulatory Information & Updates on our website?

"Sustala, Dennis R" <sustaldr@bp.com>

26-11-02 12:48 PM

To: "'LPekel@eagle.org'" <LPekel@eagle.org>
cc:
Subject: Verification vs. Certification

What in ABS opinion as to the difference between Design Verification by the CVA found in 250.903 and Certification of Plans and Specifications by the operator found in 250.901?

Does the ABS review cover drawings described in 250.901 (b)(1)(iii) i.e. plats, front and side elevations of the entire platform, and plan views that clearly illustrate essential parts, i.e., number and location of well slots, design loadings of each deck, water depth, nominal size and thickness of all primary load-bearing jacket and deck structural members, and nominal size, makeup, thickness, and design penetration of piling .... as well as "specifications" part of the ABS Design Verification Process?

In other words do you believe that the design verification process conducted by the ABS covers our (operator's) obligation to certify plans and specifications found in 250.901?

EXHIBIT 34

From: LPekel@eagle.org
Sent: Tuesday, November 26, 2002 4:38 PM
To: Sustala, Dennis R <sustaldr@bp.com>
Subject: RE: Verification vs. Certification

Dennis,

we base our approval on the as built drawings. However, since CVA only concerns the structures, that does not necessarily mean the detail drawings from DSME but can be IDE. As for the operator I would think the latest version (As built) is the one to go by.
As for the statement; I asked Bob about this and there seem to be some political issues involved why ABS will not issue a statement like that.
I realize that would be the easiest, so I will discuss it with his boss next week.

regards Lynnda

EXHIBIT 35

From: LPekel@eagle.org
Sent: Friday, December 6, 2002 11:53 AM
To: Sustala, Dennis R <sustaldr@bp.com>
Subject: Re: GVA Certification

Dennis,

we had a lengthy discussion about this yesterday. I received a list from Karl where Stephen Kinnaman and him indicated which documents they think will be necessary for CVA report. I will check this list and get back to them on that next week. That is basically the only thing we can do, we can indicate which drawings/documents we feel are necessary to be part of the CVA report (which will be indicated as an appendix to the report).
We don't get involved with indicating which documents are necessary for certification, but I'm also working on an estimate from our profit-side to serve as "certifying" PE for the deliverables. Maybe they can better indicate that.
Please don't forget that we only serve as the CVA, we cannot do any certification work and therefore this falls completely out of our scope for either providing you with this service or giving guidance on what needs be certified and what not.
Also, usually a project is not divided between a basic designer and a detail designer which makes it harder to decide if the information provided by one party is sufficient for the whole process.

I did check with our structural guys and they confirmed that the basic design documents we have now from GVAC should suffice for the CVA design report. However,that does not necessarily mean it will satisfy MMS' requirements for "certification.

I will ask ABS Consulting to take a look at the GVA deliverables (I'm assuming you're only talking about hull) and indicate which ones they think should be certified.
regards

Lynnda Pekel

Project Manager
Engineering Management ABS Americas
Phone: 281-877-6213 Fax: 281-877-6797

Did you know that ABS posts Regulatory Information & Updates on our website?

"Sustala, Dennis R" <sustaldr@bp.com>

06-12-02 10:41 AM

To: "'LPekel@eagle.org" <LPekel@eagle.org>
cc:
Subject: GVA Certification

1. Please provide me with a list of the GVA Design Plans, Drawings and Specifications that you expect to verify to the MMS as part of the CVA Design Verification report.

2. I would also like you to supply me with a written list of those documents (by title, description and document no.) that would be subject to the MMS

"certification" requirements. Please mark and send me the master list of those plans, drawings, and specifications that are being submitted to ABS for classing/ and verification that ABS feels fits into the definition of the detailed structural plans and specifications that should be "certified" per the definition found in 30 CFR 250.91 (b)(1)(iii): "Drawings, plats, front and side elevations of the entire platform, and plan views that clearly illustrate essential parts, i.e., number and location of well slots, design loadings of each deck, water depth, nominal size and thickness of all primary load-bearing jacket and deck structural members, and nominal size, makeup, thickness, and design penetration of piling..."

I need to get these very soon.

EXHIBIT 36

From: MTC, Inc. <mtc@houston.rr.com>
Sent: Thursday, November 28, 2002 8:22 AM
To: Sustala, Dennis R <sustaldr@bp.com>
Cc: Malcolm Sharples <msharples@attglobal.net>
Subject: RE: Joel Rosenstein.

Dennis:
We can meet for an extended lunch period-depending on who's free on what days- say from 11:30 - 1:00, at a place where we can stay at the restaurant after we have lunch. Or we can meet at WL/1 for 1 hour, and then go out for lunch. MTC will be very happy to get the lunch organized.

On the Certification issue, I agree with you entirely. CVA verification has to be done under the supervision of a qualified person - but I do not think ABS' signing off a cover sheet will give us a way out - if MMS insists that the Drawings need to be sealed by a P.E.. Let me talk to others in Holstein and Anne-Renee and get back to you on this early next week.
Happy Thanksgiving.
Partha
==========

-----Original Message-----
From: Sustala, Dennis R [mailto:sustaldr@bp.com]
Sent: Wednesday, November 27, 2002 8:15 AM
To: 'MTC, Inc.'
Subject: RE: Joel Rosenstein.

So how do you suggest that we go about arranging such a meeting....

Check out my earlier email about Certification/ Verification... I'd like your thoughts and any information you have about how Holstein, Mad Dog, TH, Horn Mtn, other projects handled these issues.

There seems to be talk that no one has had to certify plans, drawings and specifications and/or that the ABS verification is the same as certification. Based on a reading of the regulations this seem rather illogical.

-----Original Message-----
From: MTC, Inc. [mailto:mtc@houston.rr.com]
Sent: Wednesday, November 27, 2002 7:55 AM
To: zsharples@houston.rr.com
Cc: Dennis Sustala; Sustala, Dennis R; Laplante, Anne-Renee
Subject: RE: Joel Rosenstein.

Malcolm:
An excellent idea. Lot of items concerning the COI issues can be discussed on the side bar. This will give the Reg teams a great insight. By copy of this to Anne Renee and Dennis, I request them to please consider having a

joint meeting (off site - if it has to be done that way) - so that we can have a good and meaningful discussion. I would suggest that we get together once before that and form an agenda.
Malcolm- pleae let us discuss this briefly when you get back - and we can then talk to Anne Renee and Dennis to finalize this.
Have a safe trip back. Happy Thanksgiving.
Regards,
Partha Ganguly
Millennium Technical Consultants, Inc.
(281) 894 8427 - Phone / Fax
(281) 222 4239 - Cellular
==========

-----Original Message-----
From: Malcolm Sharples [mailto:msharples@attglobal.net]
Sent: Wednesday, November 27, 2002 2:51 AM
To: Partha Ganguly
Subject: Joel Rosenstein.

Joel is going to be in Houston 1st week of Dec...he is the main contact for ABS in Korea...it might be worth trying to schedule a meeting with Anne-Renee, and Dennis with him, just so they know who he is....what do you think?

I don't particularly want anyone to know how I know he is going to be in Houston!...as it might open up questions about how I communicate with him, and shut down an avenue we now have. But no problem telling Anne Renee and Dennis that I know he's coming. His mother died in NY and he's been there for the funeral.

--
Malcolm Sharples
Offshore: Risk & Technology Consulting Inc.
Tel 713-922-8170
Fax 281-531-5922
Email: msharples@attglobal.net
Home: 281-531-7514

EXHIBIT 37

From: Sustala, Dennis R
Sent: Thursday, October 24, 2002 7:47:28 PM
To: 'mtc@houston.rr.com'
Subject: Register PE Stamp for the CVA processes

Partha, Anne -Renee shared this with me.....

Anne-Renee:
I spoke with Arvind Shah of MMS this morning and discussed the issue of having the structural drawings certified by registered Professional Engineers. In lieu of the PE certification, MMS requests that we submit the resumes of the Structural leads from GVA. I spoke with Steve about this, and he did not think this would be any problem. I understand that T/S and Drill Rig drawings will have PE stamps, per normal practice.
The CVA design verification activity is a completely separate issue, and will be ABS' task as the project CVA.
Hope this clarifies the situation.
Best Regards,
Partha Ganguly, P.E.
Millennium Technical Consultants, Inc.
(281) 894 8427 - Phone / Fax
(281) 222 4239 - Cellular

You have covered collecting the proper resumes for the GVA drawings. Remind me, for the CVA process reviews under Daewoo, doesn't ABS have to also review some of the construction drawings. Hence wouldn't we also have to obtain Daewoo lead engineer's resume info also?

Redacted

EXHIBIT 38

From: Sustala, Dennis R
Sent: Tuesday, November 26, 2002 10:44 AM
To: 'mtc@houston.rr.com'
Subject: FW: Certification Requirements for Platforms and Production Syste ms

---

-----Original Message-----
From: Stephen Kinnaman - BP [mailto:Stephen.Kinnaman@Halliburton.com]
Sent: Friday, November 22, 2002 10:42 AM
To: Sustala, Dennis R
Cc: 'Steve.Homer@Mustangeng.com'; 'Jansson, Karl'; Myles Butler; Dave Barton; 'James.Faulkner@Mustangeng.com'
Subject: RE: Certification Requirements for Platforms and Production Syste ms

Dear Dennis,
Having received your attached e-mail in a round-about way, I wish to respond by asking a number of questions on behalf of Atlantis Project.

1. It is our understanding that the same design documents the MMS requires to be stamped by a PE [see 30 CFR.901 (b) (1) (iii)] are covered under ABS's CVA review process, which must be conducted by a PE and submitted to MMS. From discussions with Lynnda Pekel, it is our understanding that the CVA review was satisfactory for MMS's PE stamp requirement. Should both (a separate PE stamp and CVA review) be required, it would mean that two levels of PE reviews are required for the same document, which we do not believe is MMS's intent. Please comment.
2. Should the PE stamp requirement be applied literally (i.e., it *is* required in addition to the CVA review), then please advise as to what level of drawing must be stamped for submittal to MMS. The GVAC/KBR work ends at IDE (issue for detail engineering), and DSME (Daewoo in Korea) picks up with the AFC (Approved For Construction) issue and, of course, as-built drawings. Please advise which level of these drawings would be required to bear a PE stamp for submittal to MMS.
3. Should the PE stamp be required as discussed above, please advise as to what qualification of PE is acceptable to MMS. Texas and Louisiana? Korea? Sweden?
4. Finally, is this same requirement for PE stamps on documents reviewed by the CVA also being applied to other BP projects, e.g., Horn Mountain, Holstein, Mad Dog and Thunder Horse?

It would seem some discussion of these questions should occur in the near future. I will be away from Houston and returning on 2 December, but would like to meet with you and anyone else you deem advisable to include, to obtain a full understanding of this PE stamp requirement, other project precedents, and to map the way forward.
Best regards,
Stephen

> -----Original Message-----
> **From:** Dave Barton
> **Sent:** Friday, November 22, 2002 7:46 AM
> **To:** Stephen Kinnaman - BP
> **Subject:** FW: Certification Requirements for Platforms and Production Syste ms
>
> FYI
>
> -----Original Message-----
> **From:** Myles Butler
> **Sent:** Friday, November 22, 2002 7:42 AM
> **To:** Dave Barton
> **Subject:** RE: Certification Requirements for Platforms and Production Syste ms
>
> This looks like there is a requirement for structure, mechanical and electrical.
> Please review my understanding of who needs to stamp (IN RED)and let's talk...
>
> -----Original Message-----
> From: Sustala, Dennis R

> Sent: Thursday, November 21, 2002 7:40 PM
> To: 'steven.t.homer@bhpbilliton.com'; 'David.Barton@mustangeng.com';
> 'myles.butler@haliburton.com'; 'karl.jansson@mustangeng.com';
> 'lpekel@eagle.org'; 'donnie.carter@mustangeng.com'; 'MTC@houston.rr.com';
> 'ralph.phillips@mustangeng.com'
> Cc: Barker, Gary W
> Subject: Certification Requirements for Platforms and Production
> Systems
>
> The MMS regulations require Certification of Platform Design, Plans, and
> Specifications by a Professional Engineer:
> * The design and detailed structural plans for platforms (GVAC) must be
> certified by a registered professional engineer.
> * Our platform application must contain a statement that the design
> has been certified by a registered engineer and will be fabricated,
> installed, and maintained as described and approved.(BP)
> * Certified design and as-built plans and specifications have to be
> kept on file for later MMS review.(DSME/BP)
> * It is a stated duty of the CVA to conduct the design verification
> process under the direct supervision of a registered professional civil or
> structural engineer.(ABS)
> * These requirements for platforms are independent of the
> certification requirements for Production Systems.
> Traditionally, the easiest method of proving that particular drawings,
> plans, or specifications were reviewed or prepared by or under the direct
> supervision of a registered professional engineer has been through the use
> of the PE stamp. It seems difficult to comply with MMS requirements
> without use of the PE stamp. The Atlantis Project should be prepared to
> stamp drawings and/or identify the particular registered engineers by
> Name, Title, and PE Registration No. that have certified or supervised
> preparation of particular designs, plans and specifications(GVAC/KBR/DSME).
> It is also expected that the CVA will fulfill their duty as stated in the
> regulations and will be able to furnish information concerning the
> professional engineer (s) who supervised the design verification process.
>
>
> Subpart I--Platforms And Structures
> 30 CFR §250.901 Application For Approval.
> (d) The lessee shall have detailed structural plans as called for in
> paragraph (b)(1)(iii) of this section and specifications for new platforms
> or other structures and major modifications certified by a registered
> professional structural engineer or civil engineer specializing in
> structural design (GVAC). The lessee shall also sign, date, and submit the
> following certification: Lessee certifies that the design of the
> structure/modification has been certified by a registered professional
> structural or a civil engineer specializing in structural design, and the
> structure/modification will be fabricated, installed, and maintained as
> described in the application and any approved modification thereto(BP).
> Certified design and as built plans and specifications will be on file
> at_____.
> [(b)(1)(iii) Drawings, plats, front and side elevations of the entire
> platform, and plan views that clearly illustrate essential parts, i.e.,
> number and location of well slots, design loadings of each deck, water
> depth, nominal size and thickness of all primary load-bearing jacket and
> deck structural members, and nominal size, makeup, thickness, and design
> penetration of piling;]
>
> 30 CFR §250.903 Certified Verification Agent Duties And Nomination.
> (a) CVA duties. The CVA nominated by the lessee and approved by the
> Regional Supervisor shall conduct the appropriate reviews in accordance
> with the following:
>
> (a)(1) Design phase. (i) The CVA shall conduct the design verification to

> ensure that the proposed platform or major modification has been designed
> to withstand the maximum environmental and functional load conditions
> anticipated during the intended service life at the proposed location.
>
> (a)(1)(ii) The design verification shall be conducted by, or be under the
> direct supervision of, a registered professional civil or structural
> engineer.(ABS)
>
>
> Requirements for the Production Safety Systems:
>
> 30 CFR §250.802 Design, Installation, And Operation Of Surface
> Production-Safety Systems.
> (e)(4)(i) A plan for each platform deck outlining all hazardous areas
> classified according to API RP 500, Recommended Practice for
> Classification of Locations for Electrical Installations at Petroleum
> Facilities Classified as Class I, Division 1 and Division 2, or API RP
> 505, Recommended Practice for Classification of Locations for Electrical
> Installations at Petroleum Facilities Classified as Class I, Zone 0, Zone
> 1, and Zone 2, and outlining areas in which potential ignition sources,
> other than electrical, are to be installed. The area outlined will include
> the following information:
> (e)(5) Certification that the design for the mechanical and electrical
> systems to be installed were approved by registered professional
> engineers(KBR/GVAC/DSME or is it ABS?)). After these systems are installed, the
lessee shall submit a
> statement to the District Supervisor certifying that new installations
> conform to the approved designs of this subpart.(BP)
>
>

Redacted

EXHIBIT 39

From: Thurmond, Benjamin F
Sent: Thursday, October 24, 2002 9:27:18 AM
To: Sustala, Dennis R
Subject: RE: Question re P.E. Stamps

Dennis,

Ah! No, it is ABB, the designer of the Marlin TLP hull. They did this on behalf of BP Amoco. ABB (which was Han Padron before being bought out) also worked for Shell in a TLP design capacity, and they stamped some of the drawings for Ram Powell when Shell engineers weren't available.

Regards,
Ben

-----Original Message-----
From: Sustala, Dennis R
Sent: Thursday, October 24, 2002 8:18 AM
To: Thurmond, Benjamin F
Subject: RE: Question re P.E. Stamps

Thanks for bringing this to my attention.
You indicated that Marlins drawings were stamped by ABB - I assume ABB should be ABS?
In any case I've already been looking into this matter and hope to have some answers real soon.

-----Original Message-----
From: Thurmond, Benjamin F
Sent: Wednesday, October 23, 2002 3:23 PM
To: Sustala, Dennis R
Subject: RE: Question re P.E. Stamps

Dennis,

I'm not completely sure which drawings, but at a minimum, I assume it's the AFC drawings for primary steel and moorings. There are probably some systems also.

(On Ram Powell, the AFC drawings I stamped were a mixture of primary and secondary steel.)

I've had a lot more discussion about this today. Regardless of the type of drawing, none of the hull and mooring drawings for Atlantis hull and moorings will be stamped according to current plans. Unless stamping is somehow part of the CVA's (ABS) responsibility. We need to check on this. No one on FST has plans to stamp drawings. And it's not in GVA's, KBR's, or DSME's scope.

I spoke with Jeff Geyer over on Mad Dog. Jeff was also on Marlin. Jeff reports that Marlin's hull drawings were stamped (by ABB) in the same fashion as the Shell TLPs. He also says that Mad Dog will stamp drawing, but it's not clear who exactly will do this. They are looking at options, such as paying ABS consulting to do it. Jeff also said the matter was sticky with Horn Mountain. Apparently, some sort of waiver was obtained from US authorities to allow Finnish engineers to sign the drawings even though they weren't PEs. The Project Team had to demonstrate that these guys were qualified, and that it was just too difficult to get the normal stamps. Sounds like an interesting story.

Anyway, bottomline is that Atlantis FST doesn't have PE stamping in "their" plans.

Could be that something has been missed.

Ben

-----Original Message-----
From: Sustala, Dennis R
Sent: Wednesday, October 23, 2002 9:01 AM
To: Thurmond, Benjamin F
Subject: RE: Question re P.E. Stamps

Redacted

Ben which drawings are you referring to?

MMS requires certain drawings to be reviewed by a professional engineer and certain application drawings must have engineering stamps.

-----Original Message-----
From: Thurmond, Benjamin F
Sent: Wednesday, October 23, 2002 7:37 AM
To: Sustala, Dennis R
Subject: Question re P.E. Stamps

Dennis,

I'm in some Atlantis hull planning meetings this week, and yesterday evening I asked who was stamping the drawings. This question caused a little confusion. It sounded like there were no plans to stamp drawings and there was no requirement. The question is still an outstanding action item. I thought it was an MMS requirement?

I know that the Shell TLPs have stamped drawings. (I was on Ram/Powell and stamped a few myself.)

I know that shelf jackets require stamps (ref. my prior life with Exxon).

And Steve Perryman tells me that he will stamp the Holstein hull and mooring drawings.

Can you comment?

Thanks.

Ben

Ben F. Thurmond
BP America Inc.
UTG Deepwater Technology Unit
tel. 281-366-3235
email thurmobf@bp.com

Redacted

EXHIBIT 40

From: Jansson, Karl <karl.jansson@mustangeng.com>
Sent: Tuesday, November 12, 2002 5:07 PM
To: Sustala, Dennis R <sustaldr@bp.com>
Subject: FW: Professional Engineering Stamps
Attach: CV for GVAC Hull and Utility Area Manager - Bo Sundquist.pdf

---

Dennis,

here is the third GVAC Area Manager resume.

Regards,
Karl
-----Original Message-----
From: Fredrik Christborn [mailto:fredrik.christborn@gvaconsultants.com]
Sent: Tuesday, November 12, 2002 7:05 AM
To: K-G Jansson
Subject: RE: Professional Engineering Stamps

Ursäkta det var jag som när jag döpte om nammnet och samtidigt råkade döpa om extensionen till .doc istället för .pdf.
dvs Bosses CV finns bara i pdf-format.
//Fredrik

-----Original Message-----
From: K-G Jansson
Sent: 12-nov-2002 14:01
To: Fredrik Christborn
Subject: RE: Professional Engineering Stamps

Fredrik,

Jag kunde inte oppna Bosse Sundqvists CV. Nagot format fel?
Var vanlig resend.

Tack
K-G

> -----Original Message-----
> **From:** Fredrik Christborn [mailto:fredrik.christborn@gvaconsultants.com]
> **Sent:** Tuesday, November 12, 2002 2:31 AM
> **To:** karl.jansson@mustangeng.com
> **Subject:** RE: Professional Engineering Stamps
>
> Karl,
> Please forward these CVs of our three Area Managers (who are the ones signing off all the area specific Engineering documents) to Dennis Sustala. I am also enclosing my own CV as I also sign some of our Engineering documents.
>
> FYI so is this requirement nothing that was an issue, to my knowledge in the Thunder horse Project (but as always that does not mean that it was handled correct in that project)
>
> Rgs,
> //Fredrik C
>
> ***Fredrik Christborn***
> Engineering Manager

Redacted

GVA Consultants AB

Atlantis Project
P.O. Box 11450

SE-404 29 Gothenburg

Sweden

Visiting address:

Kronhusgatan 9

Direct +46-31-33 96 723

S.board +46-31-33 96 700

Telefax +46-31-33 96 799

Mobile +46 733 94 16 46

E-mail: fredrik.christborn@gvaconsultants.com

Internet: www.gvaconsultants.com

Confidentiality Notice and Disclaimer: The contents of this e-mail and any attachments are intended only for the use of the e-mail addressee(s) shown. If you are not that person, you are not allowed to read it, to take any action based upon it or to copy it, forward, distribute or disclose the contents of it and you should please delete it from your system. GVA Consultants AB does not accept liability for any errors or omissions in the context of this e-mail or its attachments which arise as a result of Internet transmission, nor accept liability for statements which are those of the author and not clearly made on behalf of GVA Consultants AB.

-----Original Message-----
From: K-G Jansson
Sent: 28-okt-2002 13:57
To: Fredrik Christborn; KBR Dave Barton (E-mail)
Subject: FW: Professional Engineering Stamps

Dennis,

In Sweden we do not have the PE status. We only have University levels of MSc and PhD in Engineering Schools. KBR probably have PE. Could you please advise which documents need to have a PE stamp.

I will ask Fredrik and Dave to provide you with Resumes (CV) of or Principal Engineers (e.g. Area Managers or if necessary Lead Engineers)

Fredrik, Dave,

See Dennis Sultana's e-mail here. Could you please help me with CV of "principal engineers" in Sweden and your PE in KBR Atlantis.

Thanks,

Karl

-----Original Message-----
From: Sustala, Dennis R [mailto:sustaldr@bp.com]
Sent: Thursday, October 24, 2002 8:42 AM
To: 'karl.jansson@mustangeng.com'
Subject: Professional Engineering Stamps

Some of our regulations require that drawings be stamped by a Professional Engineer. In the US a degreed engineer with sufficient experience can take

a test and be recognized as a "Professional Engineer" -(PE). Various regulations require certain drawings to be prepared and finally reviewed under the supervision of a "PE". The engineer is given a stamp to mark drawings. Does sweden have a similar program?

I can propably obtain a waiver from this requirement but I would need for you to furnish me a resume showing basic education and experience for each of your principal engineers working on the project.

Attention:
This e-mail is privileged and confidential. If you are not the intended recipient please delete the message and notify the sender. Any views or opinions presented are solely those of the author.

This e-mail message has been scanned and cleared by **MailMarshal - www.marshalsoftware.com**

Attention:
This e-mail is privileged and confidential. If you are not the intended recipient please delete the message and notify the sender. Any views or opinions presented are solely those of the author.

This e-mail message has been scanned and cleared by **MailMarshal - www.marshalsoftware.com**

EXHIBIT 41

IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF TEXAS
HOUSTON DIVISION

UNITED STATES OF AMERICA EX REL. KENNETH W. ABBOTT; KENNETH W. ABBOTT, INDIVIDUALLY; AND FOOD & WATER WATCH, INC.,	)	
	)	CIVIL ACTION NO.
Plaintiffs,	)	4:09-CV-01193
v.	)	
	)	JURY DEMANDED
BP EXPLORATION AND PRODUCTION, INC., ET AL.	)	
Defendants.	)	

****

ORAL AND VIDEOTAPED DEPOSITION OF
ROBERT REYNOLDS PELOUBET
INDIVIDUALLY AND AS A CORPORATE REPRESENTATIVE
SEPTEMBER 9, 2011

****

ORAL AND VIDEOTAPED ORAL DEPOSITION OF ROBERT REYNOLDS PELOUBET, INDIVIDUALLY AND AS A CORPORATE REPRESENTATIVE, produced as a witness duly sworn by me at the instance of the Plaintiffs, taken in the above styled and numbered cause on the 9th day of September, 2011, from 9:10 a.m. to 4:42 p.m., before Emanuel A. Fontana, Jr., Texas Certified Shorthand Reporter No. 1232, at the Law Firm of Fulbright & Jaworski, 1301 McKinney, in the 47th Floor South Conference Room, pursuant to the Federal Rules of Civil Procedure (and the provisions stated on the record or attached therein).

Q. And where did you receive your Engineering education?

A. College was Michigan Technological University.

Q. And what degrees did you receive?

A. I have a Bachelor's of Science in Chemical Engineering.

Q. And when did you receive that degree?

A. May of 1981.

Q. Any other degrees beyond that?

A. I have a -- it's not another advanced degree, it's a partial degree, I have a Certificate that I went through an Engineering management college that was sponsored through the University of Manchester in the U.K.

Q. When did you do that?

A. From ninety -- or from 2008 to 2009.

Q. Okay. Now, during the time that you worked as the Engineering Manager for the THUNDER HORSE and ATLANTIS Subsea Projects --

A. M-h'm.

Q. -- did you have occasion to know a fellow by the name of Barry Duff?

A. I did not meet him while I was -- during that time period.

Q. All right. Do you know a fellow -- meet a

A. Yes.

Q. And I don't know that you mentioned it, but do you recall that in his Affidavits he may have had a discussion about the -- the shutdown logic?

A. I do remember that one --

Q. All right.

A. -- but there were others, as well.

Q. And did you check the shutdown logic, as well?

A. Yes, I did.

Q. Okay. And what is shutdown logic?

A. It's the -- the hierarchial logic in a special controller, electronic controller, that -- that given a certain input, would then execute -- automatically execute orders to make the facility safe.

Q. Okay. And how is it documented?

A. It's documented ~~judicially~~ usually (Per changes/signature pg Attached) two ways, through a drawing that looks like a P&ID but we're highlighting the safety devices. Safety devices are also shown on the P&IDs. The MMS -- or BOEM refers to those as SAFE Charts.

Q. S-A-F-E?

A. M-h'm.

Q. Is that an acronym?

A. That's an acronym.

Q. What's it an acronym for?

A. Safety Analysis Flow Elements, I believe. I'm -- I'm not 100 percent sure.

Q. Okay.

A. And the other we use is we have the -- the actual logic that's written. It's shown typically on a table known as a Cause and Effect Diagram.

Q. Okay. Are there any other ways that the shutdown logic is documented?

A. Those are the two primary ones we use for Engineering.

Q. Are there any others that BP ATLANTIS has for its use?

A. I don't believe they have others.

Q. And if I understand correctly, the review that you made was of the documents that Mr. Sawyer had referenced from the subsea portion of Documentum?

MR. NESSER: Objection to form.

A. Could you repeat the question, please?

Q. (By Mr. Perry) Yes. I thought I understood you to say that you looked specifically at the documents that Mr. Sawyer had referenced as they existed in the subsea portion of Documentum at the time he was talking about.

A. That's correct.

Q. Okay. Now, have you written any memoranda

information that was not finalized. But this does not say that we installed equipment that was designed, built, and installed to incomplete drawings. It makes no such claim at all.

MR. PERRY: Is this one?

MS. SHANNA WILSON: Yes, sir. That was marked yesterday.

(Discussion off the record.)

MR. PERRY: Okay. That's fine. But this is one of the copies, right?

MS. SHANNA WILSON: Yes, sir.

MR. PERRY: And what's the exhibit number?

MS. SHANNA WILSON: 77.

Q. (By Mr. Perry) Let me hand you a copy of something that -- it was a copy of Discovery Exhibit 77.

(Discussion off the record.)

MR. PERRY: You think it is.

(Discussion off the record.)

Q. (By Mr. Perry) I'll tell you what, here is the original of Discovery Exhibit 77. Discovery Exhibit 77 consists of two drawings, or part of the ATLANTIS platform.

A. Okay.

Q. I would like you to look at these drawings and you will see that -- well, you can just call them Page 1 and Page 2. The question is this: Is either or both of these drawings an as-built drawing?

A. You've not given me enough information to determine that.

Q. Well, what you have in front of you is the drawing -- the face of the drawing as it has been provided to me. And so what I'm understanding your testimony to be is that, by looking at the face of the drawing, one cannot tell if it is an as-built drawing or not; is that correct?

A. You need to know if it is the most current revision. Again, I can't determine if it's the most current revision, based on looking at the Rev 0. There may be a Rev 1.

Q. Okay. And if you look at a Rev 2 --

A. M-h'm.

Q. -- is it possible that somewhere else there is a Rev 3?

A. Well, the appropriate way to do it is you go back to the Documentum database and get the most current version.

Q. Well, would you tell me, please, where, if anywhere in BP's specifications it says that you should

assume that the most current version of a given drawing is as-built?

MR. NESSER: Objection to form.

A. That's not what I was saying.

Q. (By Mr. Perry) I'm sorry. I guess I misunderstood you.

Let me --

A. This is --

Q. Let me -- let me -- let me be clear.

A. Okay.

Q. Item 1, by looking at the two drawings in Discovery Exhibit 77, you are -- you cannot tell whether either or both of them is or is not an as-built drawing by BP's standards; is that true?

A. To just have them handed to me like this, the answer is "No."

Q. Okay. Now, if you follow the BP Standard that was in the document published by the Gulf of Mexico Deepwater Programs Data and Information Handover Procedure that says "'As Built' documentation is to be clearly identified 'As Built,'" if you follow that definition, then looking at these two documents would tell you that they are neither one as-built --

MR. NESSER: Objection, form.

Q. (By Mr. Perry) -- isn't that true?

MR. NESSER: Objection, form.

A. Well, no, it would not. It wouldn't tell me anything more than what I see now.

Q. (By Mr. Perry) Well, do you see now that there is any clear indication on either of these documents that they are as-built?

A. No. And to give you some more context, if you handed me these drawings with "as-built" stamps on them, I would give you the same answer, because the as-built may have had to have been revised, and now we have an as-built drawing that's out of date in circulation. The stamp is meaningless in that regard.

Q. Well, there are different kinds of situations, and different kinds of answers that are applicable to different kinds of situations.

A. M-h'm.

Q. But the situation I'm asking you about is these two drawings.

A. And I think I've answered.

Q. And these two drawings, by looking at them, there is no indication on either one that they should be considered an as-built drawing, is there?

MR. NESSER: Objection to form. He's answered that question already, Mr. Perry, several times. He doesn't need to answer it again. I'm

them.

A. Yes.

Q. And you know what I'm talking about when I'm talking about an Engineering stamp, right?

A. Yes, sir.

Q. It is a stamp that a Registered Professional Engineer can use, sometimes called a stamp and sometimes called a seal; is that right?

A. That's correct.

Q. Back in the old days, people would use a seal that would make an imprint.

A. M-h'm.

Q. Today they more -- may more often use a stamp, but it will put the name -- put the Engineer's name, the emblem of the State of Texas, maybe the license number. Does it have the license number of the Engineer on there?

A. Yes. It has to have the license number, as well.

Q. Okay. And the -- the whole thing, by the time you get through applying a stamp, the Engineer has applied the official emblem that shows that this work was done by a Registered Professional Engineer, gives the name of the Engineer, says that he's licensed -- in this case, in the State of Texas -- gives his license

(Discovery Exhibit No. 93 marked.)

Q. (By Mr. Perry) Let me also hand you Discovery Exhibit 93.

MR. PERRY: And a copy for Counsel.

Q. (By Mr. Perry) And if you will look at this, you will see that this group of drawings also does not carry a stamp by a Registered Professional Engineer; is that correct?

A. That is correct.

Q. Now, are you, yourself, a Registered -- well, you've already told me you are a Registered Professional Engineer in the State of Texas, right?

A. Yes, I am.

Q. And let me just ask you a little bit about what the purpose of an Engineering stamp is. Would it be fair to say that the purpose of the Engineer's -- let me just ask you this: Can the word "seal" and the word "stamp" be used interchangeably, do you think?

A. I use them interchangeably, yes.

Q. Okay. When I'm going to use them, I'm going to -- probably going to be talking about a -- using the word "stamp" because just that's what I have heard people say mostly recently, but do you understand that I'm talking about a seal?

A. The application of a seal.

own barrier, because you always shut off a source as close as possible. And then you have what's on the facility, which is to protect the people on the facility and the environment at the facility.

So you have the one piece of subsea equipment, which is the tree in the well which has barriers, and then you have the facility which has barriers from where the hydrocarbons first start on the platform to that last valve at the end.

Q. (By Mr. Perry) So I want to be sure that I understand your viewpoint, okay?

A. (Nodding.)

Q. And so I want you to understand that what I'm trying to do with this next series of questions, I don't want to debate with you about whether your viewpoint is correct or not. I want to be sure that I understand what it is, okay?

A. M-h'm.

Q. Now, the -- there are at least two shutdown valves located down around the wellhead in the -- and in the well; is that right?

A. There's a minimum of two.

Q. A minimum of two. There might be more?

A. We use three.

Q. Okay. And one of those is called the USV?

A. Yes.

Q. And the others are called surface controlled subsurface safety valves?

A. Yes.

Q. Okay. And those are considered, in your opinion, to be part of the Production Safety System?

A. They are controlled by the Production Safety System on the facility, and those valves are the barrier --

Q. Okay.

A. -- of the well.

Q. Well, would it be your opinion that those valves and their control mechanisms are part of the Production Safety System?

A. It is.

Q. Okay. Now, the valves themselves, one is located, I believe I understand, in the wellbore?

A. Yes.

Q. Is that the USV?

A. No, that's the SCSSV.

Q. Okay. And if there's two of those, two of the SCSSVs --

A. No, there's only one. There may be two USVs.

Q. Oh, okay.

A. Sorry to interrupt you.

Q. All right. So the SCSSV --
A. M-h'm.
Q. -- is in the wellbore?
A. Correct.
Q. And the two USVs are affixed to the wellhead?
A. They're actually part of the tree itself.
Q. Okay. And their actuation is -- they -- they can be actuated by control systems from the control station on the surface?
A. That's correct.
Q. Okay. Are any of those three valves in ATLANTIS actuated by anything -- actuated automatically by anything that happens under the surface?
MR. NESSER: Objection, form.
A. The USVs are only actuated if the safety system, the -- the Production Safety System, the electronics on the facility detects some level of hazard that warrants stopping the flow from the wells. It will then cut off the hydraulic supply to those valves, and when it depressures, the valves automatically close.
Q. (By Mr. Perry) Okay.
A. The subsurface, the sub -- the SCSSV can be controlled in that same manner, or -- and this is where I'm not an expert, but there is a mechanism that that

valve can self-actuate.

Q. Do you know what kind of input can self-actuate that valve?

A. It's mechanical. It's -- it may be related to a sudden pressure drop across or a sudden high velocity pushing through it that is indicative of a loss of containment.

Q. Okay.

A. Yeah.

Q. Now, the surface control of the valves --

A. M-h'm.

Q. -- is based upon -- let's see, if I followed you right, you're saying that the valves are held open by hydraulic pressure?

A. Yes.

Q. And that if there is a loss of hydraulic pressure, the valves close?

A. Correct.

Q. And the hydraulic pressure is maintained by equipment on the floating platform?

A. That's correct.

Q. And the way the control system would go about shutting down the valves, if required, is that there would be some sort of an electrical system on the floating structure that would signal the pressurization

system to cease pressurizing the hydraulics?

A. And to depressurize the hydraulic, to remove the pressure.

Q. To depressure, okay.

A. That's -- that's fairly correct, yes.

Q. Okay. Now, that control system, in terms of inputs, are there any inputs to that process that are located beneath the surface?

A. No.

Q. All of the inputs would be from devices of some sort that are located on the floating system?

A. That's correct.

Q. And so you would consider that the -- that those valves located subsea, as they are, and the controls located above, as they are, would both be part of the Production Safety System?

MR. NESSER: Objection, form.

Q. (By Mr. Perry) Is that right?

A. That's their -- their purpose is to protect the environment in the case of the wells on this -- on the -- the valves on the well and protect the environment and protect the people on the facility on the system that's on the facility itself.

Q. Okay. And do you consider that the connections, the hydraulics that are a part of the

CHANGES AND SIGNATURE

WITNESS NAME: ROBERT REYNOLDS PELOUBET 09/26/2011

DATE OF DEPOSITION: SEPTEMBER 9, 2011

PAGE	LINE	CHANGE	REASON
48	16	Change "judicially" to "usually";	incorrect word transcribed.
96	1	change "the first" to "for";	should read "issued Rev 0 for construction..."
98	23	"they do"	should be "they do not" correction of transcribing.
112	5	change "accurately, then" to "accurate, and"	"accurate, and" is the correct wording.

I, ROBERT REYNOLDS PELOUBET, have read the foregoing deposition and hereby affix my signature that same is true and correct, except as noted on the attached Amendment Sheet.

Robert Reynolds Peloubet

ROBERT REYNOLDS PELOUBET

THE STATE OF Texas)

COUNTY OF Harris)

Before me, Esthela Garza, on this day personally appeared ROBERT REYNOLDS PELOUBET, known to me (or proved to me on the oath of or through) to be the person whose name is subscribed to the foregoing instrument and executed the same for the purposes and consideration therein expressed.

GIVEN UNDER my hand and seal of office this 26 day of September, 2011.

Notary Public in and for
The State of Texas

Esthela Garza

NOTARY PUBLIC STATE OF TEXAS
ESTHELA GARZA
My Commission Expires
March 30, 2015

IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF TEXAS
HOUSTON DIVISION

UNITED STATES OF AMERICA EX REL. KENNETH W. ABBOTT; KENNETH W. ABBOTT, INDIVIDUALLY; AND FOOD & WATER WATCH, INC.,	)	
Plaintiffs,	)	CIVIL ACTION NO. 4:09-CV-01193
v.	)	JURY DEMANDED
BP EXPLORATION AND PRODUCTION, INC., ET AL.	)	
Defendants.	)	

REPORTER'S CERTIFICATION
TO THE ORAL AND VIDEOTAPED DEPOSITION OF
ROBERT REYNOLDS PELOUBET,
INDIVIDUALLY AND AS A CORPORATE REPRESENTATIVE
SEPTEMBER 9, 2011

I, Emanuel A. Fontana, Jr., Certified Shorthand Reporter in and for the State of Texas, hereby certify to the following:

That the witness, ROBERT REYNOLDS PELOUBET, was duly sworn by the officer and that the transcript of the oral deposition is a true record of the testimony given by the witness;

That the deposition transcript was submitted on September 15, 2011, to the witness or to Attorney David L. Perry, for the witness to examine, sign, and return to Worldwide Court Reporters, Inc., by October 15, 2011.

That the amount of time used by each party at the deposition is as follows:

Mr. Perry - 5 Hours, 7 Minutes
Mr. Nesser - 2 Minutes

I further certify that I am neither counsel for, related to, nor employed by any of the parties in the action in which this proceeding was taken, and further that I am not financially or otherwise interested in the outcome of the action.

SUBSCRIBED AND SWORN to by me on this 9th day of September, 2011.

Emanuel A. Fontana, Jr., RPR
Texas CSR No. 1232
Expiration Date: 12/31/12
Worldwide Court Reporters
Firm Registration No. 223
3000 Weslayan, Suite 235
Houston, Texas 77027
(713) 572-2000

EXHIBIT 42

From: Sustala, Dennis R
Sent: Thursday, October 24, 2002 10:16:06 AM
To: Faulkner, James (BP)
Subject: PE Stamps

MMS regulations require that platform drawings and plans be prepared under the supervision of a PE. A written statement and PE stamp is generally required. This is a USA type of procedure and many other countries do not have a similar program.

In any case, I can probably get a waiver from this requirement, but will need you to provide a resume for each of the principal engineers at each of our foreign companies showing their education and experience.

The alternative is to have BP engineers stamp all of the drawings or hire a separate company to review and stamp all of the drawings.
Since the foreign work is primarily FST it up to you guys to determine whether you feel you gain advantage by having another review including the extra $$$ + Time

Redacted

EXHIBIT 43

From: Sustala, Dennis <dennis.sustala@mustangeng.com>
Sent: Thursday, November 14, 2002 5:38 PM
To: Sustala, Dennis R <sustaldr@bp.com>
Subject: FW: PE stamping requirements for MMS/ABS

> -----Original Message-----
> From: Phillips, Ralph
> Sent: Friday, October 25, 2002 1:15 PM
> To: Sustala, Dennis
> Cc: Chumchal, William
> Subject: PE stamping requirements for MMS/ABS
> Importance: High
>
> Dennis,
>
> I would like to have a meeting with you and Mustang manager of
> engineering, Joe Sanders, to discuss the options for PE stamping of
> Atlantis design drawings.
>
> When are you available?? I am available Wednesday before lunch, Thursday
> 12-2, Friday.
> Please let me know ASAP so I can get on Joe's calendar.
>
> Regards,
> Ralph E. Phillips, P.E.
> Atlantis Project - Engineering
> 713 350 7020
>

##
Attention:
This e-mail message is privileged and confidential. If you are not the
intended recipient please delete the message and notify the sender.
Any views or opinions presented are solely those of the author.

This email was scanned by MailMarshal from Marshal Software.
##

EXHIBIT 44

From: Sustala, Dennis R
Sent: Tuesday, November 26, 2002 10:42:50 AM
To: 'mtc@houston.rr.com'
Subject: FW: Certification Requirements for Platforms and Production Systems

-----Original Message-----
From: Sustala, Dennis R
Sent: Thursday, November 21, 2002 7:40 PM
To: 'steven.t.homer@bhpbilliton.com'; 'David.Barton@mustangeng.com'; 'myles.butler@haliburton.com'; 'karl.jansson@mustangeng.com'; 'lpekel@eagle.org'; 'donnie.carter@mustangeng.com'; 'MTC@houston.rr.com'; 'ralph.phillips@mustangeng.com'
Cc: Barker, Gary W
Subject: Certification Requirements for Platforms and Production Systems

The MMS regulations require Certification of Platform Design, Plans, and Specifications by a Professional Engineer:

- The design and detailed structural plans for platforms must be certified by a registered professional engineer.
- Our platform application must contain a statement that the design has been certified by a registered engineer and will be fabricated, installed, and maintained as described and approved.
- Certified design and as-built plans and specifications have to be kept on file for later MMS review.
- It is a stated duty of the CVA to conduct the design verification process under the direct supervision of a registered professional civil or structural engineer.
- These requirements for platforms are independent of the certification requirements for Production Systems.

Traditionally, the easiest method of proving that particular drawings, plans, or specifications were reviewed or prepared by or under the direct supervision of a registered professional engineer has been through the use of the PE stamp. It seems difficult to comply with MMS requirements without use of the PE stamp. The Atlantis Project should be prepared to stamp drawings and/or identify the particular registered engineers by Name, Title, and PE Registration No. that have certified or supervised preparation of particular designs, plans and specifications.

It is also expected that the CVA will fulfill their duty as stated in the regulations and will be able to furnish information concerning the professional engineer (s) who supervised the design verification process.

Subpart I--Platforms And Structures

30 CFR §250.901 Application For Approval.

(d) The lessee shall have detailed structural plans as called for in paragraph (b)(1)(iii) of this section and specifications for new platforms or other structures and major modifications certified by a registered professional structural engineer or civil engineer specializing in structural design. The lessee shall also sign, date, and submit the following certification: Lessee certifies that the design of the structure/modification has been certified by a registered professional structural or a civil engineer specializing in structural design, and the structure/modification will be fabricated, installed, and maintained as described in the application and any approved modification thereto. Certified design and as built plans and specifications will be on file at_____.

[(b)(1)(iii) Drawings, plats, front and side elevations of the entire platform, and plan views that clearly illustrate essential parts, i.e., number and location of well slots, design loadings of each deck, water depth, nominal size and thickness of all primary load-bearing jacket and deck structural members, and nominal size, makeup, thickness, and design penetration of piling;]

30 CFR §250.903 Certified Verification Agent Duties And Nomination.

(a) CVA duties. The CVA nominated by the lessee and approved by the Regional Supervisor shall conduct the appropriate reviews in accordance with the following:

(a)(1) *Design phase*. (i) The CVA shall conduct the design verification to ensure that the proposed platform or major modification has been designed to withstand the maximum environmental and functional load conditions anticipated during the intended service life at the proposed location.

(a)(1)(ii) The design verification shall be conducted by, or be under the direct supervision of, a registered professional civil or structural engineer.

Requirements for the Production Safety Systems:

30 CFR §250.802 Design, Installation, And Operation Of Surface Production-Safety Systems.

(e)(4)(i) A plan for each platform deck outlining all hazardous areas classified according to API RP 500, Recommended Practice for Classification of Locations for Electrical Installations at Petroleum Facilities Classified as Class I, Division 1 and Division 2, or API RP 505, Recommended Practice for Classification of Locations for Electrical Installations at Petroleum Facilities Classified as Class I, Zone 0, Zone 1, and Zone 2, and outlining areas in which potential ignition sources, other than electrical, are to be installed. The area outlined will include the following information:

(e)(5) Certification that the design for the mechanical and electrical systems to be installed were approved by registered professional engineers. After these systems are installed, the lessee shall submit a statement to the District Supervisor certifying that new installations conform to the approved designs of this subpart.

EXHIBIT 45

Discovery Ex. No. 265
Cause No.
4:09-cv-01193
Abbott v. BP

From: Sustala, Dennis R
Sent: Wednesday, March 24, 2004 12:41 PM
To: Kinnaman, Stephen (BP) <stephen.kinnaman@mustangeng.com>
Cc: Imm, Gary <Gary.Imm@mustangeng.com>; Erb, Paul <Paul.Erb@mustangeng.com>; Homer, Steve T (BHP) <steven.t.homer@bhpbilliton.com>; Peter Ankarsward <peter.ankarsward@bpatlantis.com>; Dick Klarqvist <dick.klarqvist@bpatlantis.com>; Karl-Gustav Jansson <kg.jansson@gvaconsultants.com>; Barton, David (KBR) <david.barton@mustangeng.com>
Subject: RE: PE Waiver Request Documentation

Stephen, I fully agree with your logic supporting each of your comments below. We probably will not need to submit qualification waiver requests for DSME, as the MMS approved our waiver request to suspend the requirement for certification of GVA Structural design under the CVA process. It has been ABS' conviction thus far that the CVA design review does not involve DSME items. However, it is my understand that TH supplied MMS with DSME waiver-support information after the approval of their CVA approval - "just to be sure". At this point I do not intend to follow suit, (i.e. send in a DSME waiver support package to MMS) unless I hear a different message from ABS or the MMS requests the same information from Atlantis as they received from TH.

There is also a PE certification requirement as it applies to the mechanical and electrical design of the production safety system. This is a different certification requirement than that required under the Structural Platform Verification Plan / CVA application for which we obtained the GVA waiver.

MEI has stated that they will certify the mechanical and electrical designs of their portion of the production safety system application. This is the vast majority of items. However, there are probably several interface systems that will likely involve GVA/ DSME documents. We will need to check to see if the FST plans and diagrams represent "mechanical and electrical design", thus requiring PE certification for which we do not have a PE waiver. (TH has not yet sent in their PSS application, I'm currently requesting TH input on how they handled this particular regulatory item.)

We may find that there are no separate FST mechanical and electrical design items that are part of the PSS package. The need for the data then goes away. If however, there are items identified that require certification, then the waiver request may be the simplest and cheapest method of resolution and I'll need FST to supply me with the data in order to make a formal request.

-----Original Message-----
From: Kinnaman, Stephen
Sent: Wednesday, March 24, 2004 10:16 AM
To: Sustala, Dennis R
Cc: Imm, Gary; Erb, Paul; Homer, Steve T (BHP); Peter Ankarsward; Dick Klarqvist; Karl-Gustav Jansson; Barton, David (KBR)
Subject: RE: List of New Technology, Codes, Regulatory Waivers and Expected Sp ecial Issues for PDWOP Preparation

Dear Dennis,
A few comments regarding your request:
One, have you checked with Thunder Horse Project to find if they have had to qualify DSME as a 'PE' entity?
Two, has Thunder Horse Project been required to submit DSME drawings *that require a PE stamp* to MMS?
Three, remember GVAC is the Hull's designer; DSME is responsible only for the Hull's detail design.
Four, the Hull mechanical and electrical systems were designed by GVAC/KBR, again with DSME performing the detail design.
Five, remember the GVAC name/logo remains on the drawings issued by DSME, so the flow of design heritage is still preserved.

I think it appropriate to ask these questions before we formally submit the request you make below to DSME. As you remember, even within GVAC's compact organization, it was not a trivial matter to list their company experience, qualification and obtain the requisite engineer c.v.s. To request the same of DSME will be a major exercise, will require a substantial statement of requirements, and will in itself constitute a significant 'project'.
As you can see, I am copying this correspondence to the BP Atlantis Site Engineering Manager, Peter Ankarsward, and ask that he, as a GVAC employee hopefully with some knowledge of our GVAC PE certification effort, can offer futher comments

Redacted

on this matter. K-G Jansson, who pulled together the GVAC PE certification, has also been copied, and perhaps he, too, can comment.
We must discuss this issue in detail before any action is taken.
Best regards,
Stephen

-----Original Message-----
From: Sustala, Dennis R [mailto:sustaldr@bp.com]
Sent: Tuesday, March 23, 2004 5:44 PM
To: Kinnaman, Stephen
Subject: FW: List of New Technology, Codes, Regulatory Waivers and Expected Sp ecial Issues for PDWOP Preparation

Stephen:

Last year you sent me following note concerning new technology, codes, and a potential waiver for the PE stamp for DSME structural drawings. ABS continues to assure me that their MMS CVA requirements for design review does not include a review of DSME drawings, only GVAs. However, I must assume that even if the structural drawings are not in question, that Hull drawings that will be submitted with the Production System Application may need to include some of the DSME detail drawings and consequently the issue of PE certification may again come up in regards to design of mechanical and electrical systems for this application. (We are required for the Production Safety System to certify that the design for the mechanical and electrical systems to be installed were approved by registered professional engineers.)

Consequently, to be on the safe side, and to cover both the potential for ABS reversal of opinion and/ or ridged MMS interpretation or expectations, I'd like to obtain from DSME the same type of company history and resume data as you (?) provided for the GVA structural reviews, in the event that I need to submit a waiver request associated with PE requirements for DSME design or documents.

-----Original Message-----
From: Kinnaman, Stephen
Sent: Wednesday, April 16, 2003 9:38 AM
To: Sustala, Dennis R
Cc: Homer, Steve T (BHP); Faulkner, James (BP); Erb, Paul; Kelly, Patrick (KBR); Jansson, Karl-Gustav (GVA Consultants); Price, Mike (Mustang Engineering); Phillips, Ralph (Mustang Engineering)
Subject: List of New Technology, Codes, Regulatory Waivers and Expected Sp ecial Issues for PDWOP Preparation

Dear Dennis,
Pursuant to your request for the above information from the Atlantis Project Floating Systems Team (FST), please be advised as follows. We have reviewed the hull and mooring systems design, and have identified the following items to bring to your attention. Both specifications referenced below are GVAC-issued Atlantis Project documents:

1. New Technology: The Atlantis Hull features displacement oil storage tanks external to the Unit's Upper Hull structure (as opposed to on or inside of the Hull structure), the particulars of which may be found in 'Technical Specification', Doc. No. 1440-50-GE-SP-020-0001-01G. P&IDs for these tanks and their systems, as well as usage procedures are the responsibility of Topsides.
2. New Codes: The hull basic designer, GVAC, has employed Det Norske Veritas (DNV) Guidelines together with applicable ABS Rules, etc. for the design of the hull structure. The DNV Guidelines are documented in 'Main Structure Fabrication Specification', Doc. No. 1440-50-ST-RP-110-0012, Section 2, item 4). Note that the Design Basis for the Atlantis Project hull is the same as that used for Thunder Horse Project.
3. Regulatory Waiver: Request to MMS for departure from 30 CFR 250.901 (d) regarding Professional Engineer (PE) certification of hull structural drawings. This issue was addressed by your letter to the MMS dated 27 January 03; the request for approval of the departure was granted by MMS's letter dated 25 February. This matter may surface again in regard to the Daewoo Shipyard (DSME) detail design work; it is our understanding that the Thunder Horse Project is preparing the requisite documentation for lead DSME structural engineers in the event such a departure from the MMS PE stamp requirement is required of the builder. The Atlantis Project will be likewise ready to provide similar documentation for waiver of DSME PE certification.

We have reviewed the Atlantis PQ's mooring system design, etc., and have identified no new issues, etc. to bring to your attention. Please contact me should you have any questions or comments regarding the above assessment.
Best regards,
Stephen C. Kinnaman, P.E.
Naval Architect
Atlantis Project FST
(281) 206-6001

Attention:
This e-mail is confidential and may be protected by legal privilege. If you are not the intended recipient you should not copy it, re-transmit it, use it or disclose its contents, but should return it to the sender immediately and delete your copy from your system. Internet emails are not necessarily secure. The company does not accept responsibility for changes made to this message after it was sent.

While all reasonable care has been taken to avoid the transmission of viruses, it is the responsibility of the recipient to ensure that the onward transmission, opening or use of this message and any attachments will not adversely affect its systems or data. No responsibility is accepted by the company in this regard and the recipient should carry out such virus and other checks as it considers appropriate.

##########

Attention:

This e-mail is confidential and may be protected by legal privilege.

If you are not the intended recipient you should not copy it,

re-transmit it, use it or disclose its contents, but should

return it to the sender immediately and delete your copy from

your system. Internet emails are not necessarily secure. The

company does not accept responsibility for changes made to this

message after it was sent.

While all reasonable care has been taken to avoid the transmission

of viruses, it is the responsibility of the recipient to ensure

that the onward transmission, opening or use of this message and

any attachments will not adversely affect its systems or data. No

responsibility is accepted by the company in this regard and the

recipient should carry out such virus and other checks as it

considers appropriate.

##########

Redacted

EXHIBIT 46

IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF TEXAS
HOUSTON DIVISION

UNITED STATES OF AMERICA EX REL. KENNETH W. ABBOTT; KENNETH W. ABBOTT, INDIVIDUALLY; AND FOOD & WATER WATCH, INC.,	)	
Plaintiffs,	)	CIVIL ACTION NO. 4:09-CV-01193
v.	)	JURY DEMANDED
BP EXPLORATION AND PRODUCTION, INC., ET AL.	)	
Defendants.	)	

****

ORAL AND VIDEOTAPED DEPOSITION OF
FRANK X. RAGAN, IV,
AS A CORPORATE REPRESENTATIVE
SEPTEMBER 8, 2011

****

ORAL AND VIDEOTAPED ORAL DEPOSITION OF FRANK X. RAGAN, IV, AS A CORPORATE REPRESENTATIVE, produced as a witness duly sworn by me at the instance of the Plaintiffs taken in the above styled and numbered cause on the 8th day of September, 2011, from 10:02 a.m. to 5:11 p.m., before Emanuel A. Fontana, Jr., Texas Certified Shorthand Reporter No. 1232, at the Fulbright & Jaworski, 1301 McKinney, 47 South Conference Room, Houston, Texas, 77010, pursuant to the Federal Rules of Civil Procedure (and the provisions stated on the record or attached therein).

A. I'm not certain of the suffix to add to that.

Q. Okay. How long have you worked for BP America?

A. Since March of 2007.

Q. Who did you work for before that?

A. Mustang Engineering.

Q. What was the period of time that you worked for Mustang Engineering?

A. From approximately July of '98 until that March of 2007.

Q. Are you a Registered Professional Engineer?

A. No, I am not.

Q. I could easily be mistaken about this, but I thought I had seen somewhere in some documentation that has been provided to us your name with the initials "P.E." after it?

A. No.

Q. Okay.

A. I've not used the initials "P.E."

Q. Okay. When a -- when an individual uses the initials "P.E." after their name, that ordinarily is used as an indication that they are a Registered Professional Engineer. Is that true, as you understand it?

A. As I would understand it.

Q. Okay. And you do not use those initials after your name because you are not a Registered Professional Engineer?

A. That is correct.

Q. Are you a degreed Engineer?

A. Yes.

Q. What Engineering Degree do you have and from where?

A. I have a Bachelor's in Mechanical Engineering from the University of Houston.

Q. And what year?

A. 1993.

Q. How old a man are you?

A. I'm 45.

Q. After you received your degree, Bachelor's Degree from U of H, what was the first employment that you had?

A. I worked for Litwin Engineers & Constructors.

Q. Would you spell that, please?

A. L-i-t-w-i-n.

THE COURT REPORTER: Thank you.

Q. (By Mr. Perry) And what kind of work do they do?

A. They're no longer in business. They did engineering and construction for a variety of

Q. So essentially the way you personally worked is that you didn't keep paper in your office more than a -- a short amount of time; is that basically right?

A. That's a fair statement.

Q. Well, there has been a great change in how lawyers work over the years. We're moving in that direction, some people are. Okay.

I -- I think I understand that when you first started working on the ATLANTIS facility, you were employed by Mustang, and that was about February of 2002; is that right?

A. That's correct.

Q. And then after a period of time in March of 2007, you moved over to be on the payroll of BP America; is that right?

A. That's correct.

Q. Now, could you explain to us what the relationship is between BP America and BP Exploration & Production with respect to the ATLANTIS facility?

MR. HUNTER: Object to form.

You can answer.

A. I'm not sure what the difference is.

Q. (By Mr. Perry) Would it be fair to say that all of the time that you were employed by BP, working on the ATLANTIS facility, that you were actually an

employee of BP America?

A. Could you repeat that, please?

Q. Yeah. Would it be fair to say that after you moved from Mustang to BP --

A. M-h'm.

Q. -- and during the period of time you were working primarily on the ATLANTIS facility, that during that entire period of time, you were on the payroll of BP America?

A. That's correct.

Q. Are you still on the payroll of BP America?

A. Yes.

Q. When you got your -- what you referred to as a promotion, in the fourth quarter of last year, did that involve a -- an increase in pay?

A. It did not.

Q. But it involved, essentially, a change in responsibility?

A. That's correct.

Q. Would you regard it as an increase in responsibility?

A. Yes.

Q. Okay. Now, when you started working on the ATLANTIS facility and you were employed by Mustang, would you outline for us what -- what was the role that

you started out being assigned to do for the ATLANTIS facility? And this was about nine -- about 2002, you said?

A. That's correct.

Q. Okay.

A. That was nine years ago. So basically my recollection is that I was the Control Systems Engineer, or I believe my title at the time, more accurately, was Staff Technical Professional, instead of Engineer.

At that time, my goal was to represent BP for the -- the control system design on the platform, which meant supervising the -- the contractors and vendors that provided control system programming and equipment.

Q. Now, you said that your title really was -- did not include the word "Engineer." It -- your title was Staff Technical Professional, as you recall it?

A. At the time I joined the -- the ATLANTIS team, I think that was correct.

Q. Okay. At Mustang, did they make a distinction between who could use the word "Engineer" in their title and who could not, in some way?

A. I'm not sure what the formal Human Resources policy was.

Q. During the time that you worked for Mustang,

had you ever been -- had you ever had the word "Engineer" in your job title?

A. I believe my -- in my initial role there, it was.

Q. When you first joined Mustang, what was your title, as best you recall?

A. I believe it was Control System Engineer.

Q. Okay. And then can you explain when and how it got changed to be a Staff Technical Professional, or whatever that phrase was?

A. I don't remember the timing or the -- the circumstances around that.

Q. Did it involve an increase in pay when the title changed?

A. Possibly. I don't recall.

Q. Was it associated with the beginning of your work on the ATLANTIS facility?

A. I don't believe so, but, again, I -- I don't recall the timing specifically.

Q. Okay. All right. So at any rate, you said that you were a Staff Technical Professional, and that your main job, you said, was to represent BP?

A. (Nodding.)

Q. So -- and you were overseeing contractors and vendors who were doing some of the work on the ATLANTIS

don't try to keep track of it. But you understand that that's one of the -- one of the options you have is to ask for questions to be repeated or rephrased, right?

A. I understand that.

Q. Okay. What I think I understood from your previous answer is that on the controls matters that you were initially working on, on the ATLANTIS facility, there was a Mustang/Honeywell joint venture dealing with those matters; is that right?

A. That's correct.

Q. And in some way or another, as you understand it, did that joint venture have a contractual relationship to provide products or services to the ATLANTIS Project.

A. Yes, we placed a Purchase Order with Honeywell to provide hardware and programming services.

Q. Okay. And you were a member of the team who was on the payroll of Mustang; am I right so far?

A. That's correct.

Q. And -- but your job was to represent BP, among other things, in developing the specifications and the requisition documents for the purchase of the product and the related services --

MR. HUNTER: Objection, form.

Q. (By Mr. Perry) -- is that right?

A. That's roughly correct.

Q. Okay. Were there any other members of that particular Team who were Mustang employees, besides yourself?

A. Of which particular Team?

Q. The Team that was dealing with the Mustang/Honeywell joint venture.

A. On the Programming Team under Honeywell's direction, there were Mustang staff members, yes.

Q. Okay. Were you the Head of the -- of the Team on -- on that subject?

A. In this relationship, although Mustang is in both sides, I was the customer on that Purchase Order. I was not the Head of the Honeywell/Mustang joint venture. They were the provider in that relationship.

Q. Okay. Now, let me try to -- this particular -- this was a Purchase Order of -- for that joint venture to provide what?

A. I'm sorry, to provide --

Q. What? What was it going to provide under the Purchase Order?

A. Honeywell hardware products.

Q. M-h'm.

A. Controllers, I/O cards, cabinets, and software services, programming.

Q. Going to provide hardware and software programming.

A. Correct.

Q. And that is for -- that is to do what?

A. It was for the Control Systems and Safety Systems on ATLANTIS topsides.

Q. Control Systems and Safety Systems.

A. For the topsides.

Q. Now, and in that respect -- well, did your job -- did that basically remain your job most all of the time that you worked for Mustang, from 2002 to 2007?

A. My role changed somewhat. I moved to the Fab Yard as part of the Commissioning Team, and I remained in that commissioning role until I -- until I moved to BP.

Q. And when was that when -- when you were at the -- when did you move to the Fab Yard?

A. It would have been roughly September of 2004.

Q. Okay. And you stayed at the Fab Yard from September of '04 until about March of '07, when you moved to the BP payroll?

A. There were multiple locations. It was not a -- a single Fab Yard.

Q. But did you remain working primarily on the

A. -- did the -- the engineering for the hull.

Q. M-h'm.

A. And my work in the integration yard and offshore involved the control system with marine components.

Q. Okay. And so that integration work was done where?

A. The integration of hull and topsides was Ingleside, Texas.

Q. Okay. And who with GVA did you interface with?

A. There were a number of individuals. I believe the Lead for that team was a man named Sonny Hjertman.

THE WITNESS: Please don't ask me to spell his last name. It starts with an H. It's H -- H-j something.

THE COURT REPORTER: H'm.

Q. (By Mr. Perry) Okay.

THE COURT REPORTER: Thanks.

A. H-j-e-r-t-m-a-n-n [sic], something along that line.

Q. (By Mr. Perry) Was he from Sweden?

A. Sweden or Norway, I couldn't tell which.

Q. Okay.

A. But he was European.

Q. Give me just a really shorthand rendition of how it is that -- that the controls interface with the hull, a few -- a few examples, maybe, of what the kinds of interfaces that you had to deal with.

A. At this -- the question is about this time period where I'm interfacing with other companies?

Q. Yeah. And particularly with DSME.

A. On ATLANTIS there's a single control room with a large number of screens, looks like a mission control for the space shuttle.

Q. (Nodding.)

A. Eventually those -- those screens were all connected to various computer networks and different responsibility teams, topsides, subsea, the hull team. They all have to join up in that control room with that -- that series of networks.

So the teams can't work completely independently when it comes to the networking of the facility. They have to be compatible. You can't reuse names. You -- you have to have similar hardware, similar configurations.

Q. So the different teams that are going to occupy the control room, you mentioned what they were, but I didn't write it down. Would you mention them again, please?

A. So I worked for the Topside Team.
Q. M-h'm.
A. There was also a Floating Systems Team, commonly called the hull or marine.
Q. M-h'm.
A. And then there would be subsea.
Q. And all of those folks are going to end up with having controls that are in the control room or they're going to have their own -- their own space and their own controls?
A. Basically, yes.
Q. Okay.
A. (Nodding.)
Q. And you're having to design it where it will all come together as a nonconflicting --
A. Correct.
Q. Now, Kiewit Offshore, did you have occasion to interface with them?
THE COURT REPORTER: What is the name?
MR. PERRY: Kiewit, K-i-e-w-i-t.
A. Yes.
Q. (By Mr. Perry) In what way?
A. Kiewit was the -- I'm not sure if this is the proper term -- but the construction contractor at the integration yard in Ingleside.

Q. Okay.

A. And I was stationed there for approximately 18 months when the hull and topsides were integrated.

Q. I told somebody the other day that the concept of integrating all of that over at Ingleside. Do you -- do you remember that old Johnny Cash song about one piece at a time, how he stole the parts from a car for a car and then put it all together one night?

MR. HUNTER: Objection, irrelevant, but --

MR. PERRY: Well, it is -- it is irrelevant.

(Laughter.)

A. No. That's --

Q. (By Mr. Perry) Okay. Well, never mind. But you -- how can you be too young to remember Johnny Cash.

Anyway, okay. So the deal at Ingleside is that there's lots of different components to this facility that are all transported to Ingleside, and they are put together to -- to -- to construct it into the actual facility over about an 18-month period. Is that basically what happened

A. Yes. That, and the beginning of commissioning.

Q. Now -- and -- and KOS is the contractor that essentially is in primary charge of the construction work that has to go on to put all these pieces together?

MR. HUNTER: Objection, form.

Q. (By Mr. Perry) And I don't mean that in a technical legal way but in the practical way that you looked at it.

A. Yeah, KOS was the facility that was used, and they provided some of the labor.

Q. Okay. Now, a company named McDermott?

A. Yes, I'm familiar with them.

Q. Did you interface with them?

A. McDermott was the -- the fabrication contractor for the topsides in Louisiana.

Q. M-h'm.

A. And I was stationed there for roughly eight months.

Q. Now, the -- are the controls that you were creating considered to be a part of the topsides?

A. Yes.

Q. Now, the controls that you were creating, although they were part of the topsides, did a lot of them control stuff, or at least some of them control stuff that was not part of the topsides?

A. As a part of the topside controls, there are elements located within the marine systems that topsides controls.

Q. For example?

A. The seawater lift pumps are the base of the pontoon of the -- the boat, so to speak.

Q. M-h'm.

A. Those are operated by the topside controls.

Q. Okay. And then, also, there are various kinds of valves and equipment of various sorts associated with the wells and the subsea equipment, are there not, that are controlled from the topsides?

A. The emergency shutdown systems shuts valves that are within the -- the subsea architecture.

Q. Are there any other valves in the subsea architecture that are controlled from the topsides, that you recall?

A. Beyond the --

Q. Beyond the emergency shutdown.

A. Beyond the emergency shutdown valves I mentioned, there are no directly controlled valves in the subsea architecture to my recollection.

Q. Okay. There are some valves that -- I probably don't have the acronyms down right, but there is -- I think there are surface control subsurface

valves, maybe, and then there are subsurface control subsurface valves, maybe. Do you -- do any of those -- any of that lingo ring a bell with you?

A. Yes, I -- I understand the language. The SCSSV, surface control --

Q. Yes.

A. -- subsurface safety valve --

Q. M-h'm.

A. -- is installed in the wellbore.

Q. And is it controlled through the control system that you were in the process of designing?

A. The -- the emergency shutdown system has the capability to shut that valve on command.

Q. Okay. And then are there any -- any valves as part of the subsea system that can direct the flow -- that can direct the process flow through one pipe or another pipe?

A. Those valves do exist, yes.

Q. And are they controlled through the control system that you developed?

A. They are not controlled by the topsides.

Q. How are they controlled?

A. There's a separate subsea control system.

Q. Is the -- is it physically operated from the topside of the platform?

A. As I mentioned earlier, there's a single control room, which has screens for subsea, screens for topsides, screens for marine. They're all located from that central control room.

Q. So the physical location of the controls that operate the subsea, I guess I would refer to them as the more routine valves?

MR. HUNTER: Objection, form.

Q. (By Mr. Perry) The -- the physical place that those are controlled from on the surface is the same control room that you designed?

MR. HUNTER: Objection, form.

A. I -- I disagree with crediting myself with the control room design. It was the -- the interface effort, a collaborative effort --

Q. (By Mr. Perry) Okay.

A. -- of multiple teams, but the controls for all three teams, marine, subsea, and topsides, all of those controls are accessed by the operators in one room.

Q. Is that just called the "control room"?

A. There's a variety of names, but control room is the general term.

Q. Okay. So essentially there -- there is on ATLANTIS one control room that is located in what is called the topside portion of the facility?

A. Actually, that's incorrect.

Q. Okay. Tell me what is correct.

A. The -- the design of ATLANTIS, the control room is located within the hull, below the main deck.

Q. Okay. Well, part of what I was going to ask you is: How do you distinguish between what is topsides versus what is hull? Or where do you draw the lines between these different parts of the -- the facility?

A. The division of scope is along the -- the functionality of the systems.

Q. Okay. So if you talk about the functionality of the system, the control is -- is the control room -- is the design of the control room primarily within the Topsides Team?

MR. HUNTER: Objection to form.

A. The design of the room itself, the architecture, the furniture was not within the topsides scope.

Q. (By Mr. Perry) Okay.

A. It's physically located in the hull.

Q. So the hull designed the room physically?

A. M-h'm.

Q. Is the controls -- were the controls themselves primarily within the Topsides Team?

A. There's no subsea equipment controlled by the PCS.

Q. Okay. Does the PSS control some equipment that is underwater?

A. The PSS can shut the -- it can command the shutdown of subsea well valves.

Q. Okay. And the ESS, does it control equipment that is underwater?

A. It can also shut subsea well valves.

Q. Does it have the ability to shut the same valves as the PSS, or different valves from the PSS?

A. The same valves.

Q. Okay. So those -- and those would be the surface controlled subsurface safety valves?

A. Those and others.

Q. Okay. So all of those underwater valves that can be closed by the PSS or the ESS, the two systems are like alternative ways of controlling the valves, those valves?

A. Alternative ways of shutting them down.

Q. Okay. And then, in order -- in order for the system on the surface to control valves under the water, does it have to communicate with them --

A. So --

Q. -- or how does it do that?

A. Ultimately it does not rely on communication to the valves subsea. There are hydraulic systems on the facility --

Q. M-h'm.

A. -- above the water that the ESS and the PSS can bleed down the hydraulic pressure and shut those valves.

Q. Okay. Are there any data control links between any of the control systems located above the waterline with equipment located below the waterline?

MR. HUNTER: Objection, form.

A. The -- the PSS and the ESS communicate with the subsea controls to, first, ask for the closure of those valves, before they do any topside changes to the hydraulics. It's a -- it's a more gentle way of controlling the valves.

Q. (By Mr. Perry) So, for example, if you're going to do a routine shutdown, like a planned shutdown, for some reason, that would generally be done via electronics?

MR. HUNTER: Objection, form.

A. Are -- are you -- I'm not sure about your question. Are you asking what system it comes from, or are you asking about the mechanism to the valve?

Q. (By Mr. Perry) At this point I was asking

about the mechanism to the valve.

A. It would be done with an electronic signal from the controls on the platform to electronic subsea, which take the hydraulic pressure off subsea. Ultimately, the valve is hydraulic.

Q. Okay. But the -- a routine shutdown would be initiated and would initiate and con -- strike that.

A routine shutdown would be initiated by electronic signals that would go down the umbilicals and ultimately to a controller on the valve; is that correct?

MR. HUNTER: Objection, form.

A. In the control pod it's called a -- this is extending beyond my experience, but there's a subsea electronics module that receives that signal. If you delve beyond that, I really don't know how the functionality works.

Q. (By Mr. Perry) Where is that module located, as best you understand?

A. Underwater.

Q. Near the valve or attached to the valve, or something like that?

A. I'm not sure how far away it is.

Q. What's your best understanding? And we'll -- one of the things witnesses are supposed to do, by the

Q. Okay. So this would -- that would be a situation where the -- well, are we talking about that -- that the PSS interfaces with the subsea control system to send the signal, or does the signal originate with the subsea control system?

A. So your questions aren't following logically for me. You were asking about normal shutdowns. Are you still asking --

Q. Yes, yes.

A. The PSS is not involved in normal shutdowns.

Q. Okay. So the -- is it correct that the PCS, the PSS, and the ESS are all not involved in normal shutdowns?

A. That's correct.

Q. Okay.

A. The normal operation of the valves is from subsea.

Q. Okay. And then the PSS and the ESS would be involved in emergency actions?

A. Right. Override shutdown-type situations.

Q. Okay. And would they act through electronic signals, or attempt to act through electronic signals initially, or would they go immediately to how they deal with the hydraulics?

A. They initially act through electronic signals.

Q. And would their initial action through electronic signals go out through the same system that carries the subsea signals?

A. Yes.

Q. So that would be a case of the -- would it be the PCS -- I'm sorry. Would it be the PSS or the ESS that would be sending these electronic signals in this emergency situation?

A. That would depend on the nature of the situation.

Q. Could be either one of them though?

A. Correct.

Q. Okay. And would it be a situation that the PSS or the ESS would then talk to the subsea system and have it send a signal?

A. Correct.

MR. HUNTER: Objection, form.

Q. (By Mr. Perry) Okay. Now, I have written this down, so that I can read these letters to you and hope that they mean something. (Tendering.) The -- the -- the letters SCSSSV, does that mean something to you?

A. You have too many S's in that.

Q. Okay. Well, I was afraid I might. How should it be written?

A. It's SCSSV.

could shut the valves?

A. That's correct.

Q. And is the same thing true of the ESS?

A. Correct.

Q. Do the PCS -- I'm sorry. Do the PSS and the ESS respond to various automatic inputs so that they may react automatically to an upset or an emergency?

MR. HUNTER: Objection, form.

A. They do.

Q. (By Mr. Perry) And what types of automatic inputs do they react to?

A. There are -- there are a variety of sensors connected to each of the systems that monitor pressure, level, flow, other-type process measurements, and input signals like push buttons that can generate those signals.

Q. Are these -- I'm sure that some of these sensors are located on the topsides? Is that true?

A. That's correct, are --

Q. Okay.

A. -- those sensors are all mounted on the facility topsides or -- or hull.

Q. So none of these sensors are located subsea?

A. None of the ESS or PSS sensors are monitored -- are mounted subsea, that's correct.

Q. And what about Ken Dejohn?
A. I don't know.
Q. And Mark Robicheaux?
A. Again, I don't know.
Q. Do you have any -- understanding that you don't know, do you have any feeling where the other -- about any of these fellows that you -- you would think that they probably are or probably are not?
A. I have a suspicion that William Chumchal may be a Professional Engineer.
Q. Okay.
A. But I don't recall.
Q. Okay. Now, did you have anybody working for you on the Controls Team -- and maybe "working for you" is not the right terminology, but did you have anyone working with you on the Controls Team that was a Registered Professional Engineer, that you knew of?
A. So your question is about the Controls Team specifically?
Q. Yes, sir.
A. I don't recall any specific individuals who -- who were PEs.
Q. What about did you have any -- did you have anybody that was working with you, on the work you were doing, that was a Professional Engineer as you

THE COURT REPORTER: Sorry, David, we're going to get in front of you.

Q. (By Mr. Perry) During the period of time that you were involved with budgeting and scheduling of the control system, did you understand that the control system you were working on, or at least part of it, was part of what is called the Production Safety System of the facility?

A. Yes.

Q. And did you learn, during that period of time, that there is a Federal requirement that the documentation for the Production Safety System be certified by a Registered Professional Engineer?

MR. HUNTER: Objection, form.

A. And I disagree with the -- the question itself. You've made an assumption that I don't agree with.

Q. (By Mr. Perry) Did you learn anything about that subject during the time that you were handling budgeting and scheduling?

MR. HUNTER: Objection, form.

A. Which subject?

Q. (By Mr. Perry) The subject of certification of Engineering documents on the Production Safety System by Registered Professional Engineers.

February of 2005. Does that sound correct to you?

A. I couldn't tell you the date of the first formal submission, so I -- I wouldn't be able to comment on -- on the first formal submission.

Q. I'm going to just ask you to assume that that is roughly the date of the first formal submission.

A. (Nodding.)

Q. And I'll par -- maybe it's not particularly pertinent to the question.

My real question is: At the time of the first formal submission, at or before the first formal submission, did you have knowledge of any written approval of the part of the Production Safety System you were involved with by a Registered Professional Engineer?

MR. HUNTER: Objection, form.

A. So your question was a written approval?

Q. (By Mr. Perry) Yes. Did you have knowledge of any written approval by one or more Registered Professional Engineers?

A. No, not as a written approval.

Q. Have you ever seen a written approval of any part of the Production Safety System by any Registered Professional Engineer?

MR. HUNTER: Objection, form.

A. Not as such, no.

Q. (By Mr. Perry) Have you ever been told by anyone that a written approval by a Registered Professional Engineer has ever existed?

A. I've never had anyone tell me that.

Q. Has anyone ever told you orally, or in writing, that any part of the Production Safety System has ever been approved by a specific Registered Professional Engineer?

MR. HUNTER: Objection, form.

A. So the question is an oral approval by a specific individual Engineer?

No.

Q. (By Mr. Perry) So I want to be real clear. With respect to the Federal requirement that the design of the Production Safety System be approved by a Registered Professional Engineer, you are not aware of any approval of the design that has ever existed either orally or in writing?

MR. HUNTER: Objection, form.

A. I believe your question misquotes what the requirement is.

Q. (By Mr. Perry) In what way do you feel that I have misstated the requirement?

A. Well, my recollection of the requirement is

same creation, review, and approval process with Registered Professional Engineers. When it comes to actual software coding, it's not a requirement.

Q. (By Mr. Perry) Well, is there a drawing for safety shutdown logic as part of the Production Safety System?

A. The SAFE Chart is submitted, that indicates the -- the functionality required.

Q. I'm not sure that that answered my question.

Is there a drawing specific to the logic of the Safety Shutdown System?

A. The SAFE Chart is the -- the closest drawing that you have indicating the logic, but it is a -- a functionality document, a safety analysis function evaluation. It also shows other things besides the functionality of the logic that needs to be installed.

Q. The SAFE Chart is a multipage -- strike that.

A SAFE Chart -- well, a SAFE Chart is almost like a book, is it not?

MR. HUNTER: Object --

A. In what way?

Q. (By Mr. Perry) Well, it's a multipage document.

A. Yes.

Q. About how many pages is there in the SAFE

MR. PERRY: H'm, I don't think that's Johnny Cash.

Q. (By Mr. Perry) Subject --

(Discussion off the record.)

Q. (By Mr. Perry) Okay. We'll start the question over.

Look at your -- look at the reply which you then received from Mr. Dejohn, which I'll read into the record, and you read along with me and see if I read it correctly, and please correct me if I don't.

This E-mail is from Kenneth P. Dejohn, sent Friday, November 11, 2005, to Frank Ragan, copying Linn Osborn and Dennis Sustala, "Subject: RE: Information for the MMS."

"Dennis- Can we wait for 'As-Builts'? It may be quite a while. We could supply the last issued set quickly. As Frank says, we have no 'Pride' in these documents. I am sure he could find discrepancies if he dug deep enough."

Let me just stop right there and ask you: Have I read it correctly so far?

A. I believe you read it accurately, yes.

Q. And do you have any idea what Ken Dejohn was talking about when he said: "I am sure he could find discrepancies if he dug deep enough"?

A. So this time frame, November 2005, was in the -- say, the first third of the commissioning effort that we had in Ingleside before this system was approved for sail-away by the U.S. Coast Guard.

During that time frame, we were still testing systems. When the hull came over from Korea, we basically retested every system on the facility to ensure that it was 100 percent correct. I was involved in that effort for, as I said, roughly 18 months. So here, at maybe the six-month mark, we knew that we had not covered the entire facility and that there were systems that I was not responsible for the generation of the documents and that I was going to continue to test and ferret out every last detail that we could find.

So I believe that is what he refers to when he says he could find discrepancies. That was my job, ~~Commission Assistant~~ Commissioning assignment (per Changes/Signature pg attached).

Q. Okay. And then he goes on to ask you, going back to the E-mail reply: "Frank- How radical are the changes on the red lines?"

A. (Nodding.)

Q. And that's the end of the E-mail, right?

A. That's the end of Ken's E-mail, yes.

Q. Yeah. And by "red lines," that's what is done

when -- when they have a drawing that is used to construct or fabricate a piece of equipment and then they want to check the actual resulting product, and they use red lines to indicate where changes might need to be made to update the drawing --

MR. HUNTER: Objection, form.

Q. (By Mr. Perry) -- is that correct, in effect?

A. Red lines are ~~changing~~ Changes (per Changes/Signature pg attached) to the drawing. They could be from a number of issues, whether it was installed differently or there were typographical errors or any number of discrepancies on the drawing.

Q. But they are used after fabrication basically to either check and make sure that everything is the same as the original drawing directed or --

A. (Nodding.)

Q. -- to make a record of changes that need to be incorporated into updated drawings, right?

MR. HUNTER: Objection, form.

A. Or to correct the system even, to make it perform properly.

Q. (By Mr. Perry) Yeah. It may be an issue that -- that it was installed as designed, but after looking at it again, it really needs to be changed?

A. Correct.

Q. But ultimately it's part of a process of

checking what was actually built against what was designed, updating that, if necessary -- right so far?

A. Correct.

Q. -- and also a process of perhaps making other necessary changes that in turn have to be updated, right?

A. Correct.

Q. Now, part of what you ultimately end -- ended up -- I think this may be in a different E-mail, but I think you ended up saying that in essence you all had sort of had to rebuild the fire and gas system. Was that right?

MR. HUNTER: Objection, form.

A. I'm not sure if it relates to this E-mail, but in the integration yard, we did an extensive amount of work on the hull, including fire and gas work.

Q. (By Mr. Perry) But now, the fire and gas, is that the name of a system?

A. In general terms, yes.

Q. And what -- what does "fire and gas" refer to?

A. On the ATLANTIS hull within the marine systems, there are smoke detectors, thermal detectors, manual pull stations, like you might find in a commercial building, wired to a central panel that sounds a fire alarm.

There are also combustible gas detectors in the ventilation systems that detect if any combustible gases are being pulled into the building. Those systems are interconnected to the hull emergency support system, which is part of the Coast Guard purview for the facility.

Q. Okay. And what was it that required that to be reworked quite a bit?

A. During the time we were in Ingleside, we had Coast Guard and ABS Inspectors on the platform maybe not every day but most days of the week, nearly the entire duration. The commissioning of the hull systems was in conjunction with inspection by the Regulatory Agencies.

(Discovery Exhibit No. 75 marked.)

Q. (By Mr. Perry) All right. Let me hand you what I've mark as Discovery Exhibit 75. And just look at the top part of that and see if that reflects your reply to the question of how radical are the changes on the red lines.

MR. HUNTER: Do you have a copy of that next one?

MR. PERRY: No. I'm sorry, I don't.

A. I've read this. Can you repeat the question?

Q. (By Mr. Perry) Yeah. Does -- does this

contain at -- at the top your reply to Mr. Dejohn's question: "How radical are the changes on the red lines?"

A. This is my reply to Ken.

Q. And does it say, and I quote: "The Fire and Gas was completely reworked at Ingleside, and then we have had significant rework through the MoC process. Some systems like Ballast have had little change"?

A. That is an accurate reading.

Q. And when you talked about reworking the fire and gas almost completely, does that refer to the system that you were explaining to me just a moment ago?

A. Yes.

Q. And was that reworking something that was then -- was required by -- by I guess it was the Coast Guard, did you say, or one of the Regulatory Agencies?

A. It's the combination of the Coast Guard and ABS Inspectors working with them.

Q. Now, you mentioned that there were some Process Engineers that had worked with you all in your control system design. Do you, yourself, have any background in Process Safety Engineering?

A. It depends on what you consider "background."

Q. Tell -- tell me what you have that I might

Q. Okay.
A. That was almost 12 -- 11 years ago now.
Q. Now, let me go back. We were talking about process safety, and we were talking about preventing leakage of hydrocarbons, preventing failures that allow hydrocarbons to get outside of the process. Do you follow?
A. I do.
Q. Okay. Do you remember the discussion we were having about that?
A. I do.
Q. Okay. Now, in the development of the control systems that you were developing, did you understand that you were functioning as part of the application of Process Safety Engineering Principles to this ATLANTIS facility?
MR. HUNTER: Objection to --
A. Yes.
MR. HUNTER: -- form.
A. Yes, I understood that.
Q. (By Mr. Perry) Okay. Do you understand that one of the principles of Process Safety Engineering is that it is important to have accurate and reliable documentation?
A. Yes, I understand that.

A. H'm. So I can't cite a specific reference to as-built or as-builting. We do require that we keep current drawings, updated drawings, but those current drawings could be the issued for construction drawings that were then installed as designed, without requiring an update.

Q. Well, I want to try to be specific to the question of as-builting. Do you know what the word "as-builting" means, the phrase "as-builting"?

A. I have an understanding. I'm not sure if our understanding is the same.

Q. What would you understand the phrase "as-builting" to mean?

A. I would consider that a process of checking drawings, seeing if there are discrepancies, and updating them to match the current configuration.

Q. Let me ask you to assume that the phrase "as-builting" refers to a process of converting a drawing into an as-built drawing, okay?

A. Okay.

Q. And having in mind that assumption, and that definition of what it means, does -- did BP as-built any of the portions of the Production Safety System?

MR. HUNTER: Objection, form.

Q. (By Mr. Perry) And if so, which ones?

A. The -- there are various detailed drawings, for example, loop drawings where a wire may have been numbered one particular number and installed as a different number out of the set. Those drawings would be updated to accurately reflect which wire within the cable set was actually used. Those types of updates are routinely included in the final documentation.

Q. Okay. Now, would I expect that when I looked at a given drawing, there would be something on the drawing that would tell me if it had been as-builted?

MR. HUNTER: Objection, form.

A. You cannot tell, by looking at a printed drawing, if it is the most current drawing. The way to find the most current drawing is to go back to the document system. So you may find a drawing that says "as-built" that was as-built at whatever date it was, and subsequent changes have been made.

So the reliance on a descriptor is -- is inappropriate.

Q. (By Mr. Perry) Okay. So, in other words, the system may have in it as-built drawings that were accurate when they were stamped "as-built," but they're no longer accurate today?

MR. HUNTER: Objection, form.

A. They would have sup -- they would have more

MR. PERRY: Okay?

MR. HUNTER: I understand.

Q. (By Mr. Perry) Now, is there any process any time during the construction and handover process when it is normal that some of the Engineering documents be upgraded to a defined as-built status as part of being turned over to Operations?

MR. HUNTER: Objection to form.

A. On ATLANTIS, during the commissioning process, we created system handover books. There is a section there to collect any as-builts that may have been generated. That process did not require that every drawing be updated, only that any identified changes were collected, so that they could be incorporated in an update of the drawing.

Q. (By Mr. Perry) So there was a process that if a drawing had been updated to as-built, that would be the drawing turned over. Am I right so far?

A. The updated drawing would be turned over, yes.

Q. But there was no requirement of -- for any of the aspects of the construction, that you know of, that any drawings be up-builted -- be as-builted as a matter of it being required to turn over as-builts?

MR. HUNTER: Objection, form.

A. Well, there was no requirement that all

drawings be reissued as as-built.

Q. (By Mr. Perry) Okay. Well, let me just --

(Discussion off the record.)

Q. (By Mr. Perry) I want to just show you some drawings and get you to help me on -- on this.

MR. PERRY: Thank you. I got it, Shanna. And these are all copies here that we can use for people?

MS. WILSON: Yes, sir.

(Discussion off the record.)

(Discovery Exhibit No. 77 marked.)

Q. (By Mr. Perry) Okay. Let me just hand you an exhibit that consists of two drawings. I've marked this as Discovery Exhibit 77.

MR. PERRY: I have a copy for counsel.

MR. HUNTER: Thank you.

MR. PERRY: I'm getting better.

Q. (By Mr. Perry) And I want you to look at either one of these drawings as much as you would like in order to answer this question. And my question to you is: Is this an as-built drawing?

A. (Reviewing Exhibit No. 77.)

Q. I guess I'm asking you to answer separately with regard to the two.

A. So my answer is, that looking at a -- a

A. I was not responsible for all aspects of Production Safety System Application. There are other documents in the Application not within my direct responsibility at the time.

Q. Well, as far as the overall Production Safety System itself, I thought that you were the person that was responsible for its development at the time this was submitted.

A. I was responsible for the control systems --

Q. Okay.

A. -- which relates to the SAFE Chart, the logical systems contained.

Q. Okay. So what other categories or portions were there of the Production Safety System, and who was in charge of them?

A. The Application also includes electrical drawings and various planned drawings, hazardous areas plans and things of that nature.

Q. M-h'm. So electrical, would that have been under the charge of the Electrical Engineer whose name you mentioned earlier?

A. Yes.

Q. And the hazardous areas, who would -- who would have had that responsibility?

A. I'm not certain which Engineer specifically

would have been responsible for the generation of those drawings. I believe it was a combination of Engineers, like Ralph Phillips and Jerry Hart and -- and those.

Q. Okay. And any other portions of the Production Safety System that were not your responsibility?

A. I would need to see a Table of Contents to make sure that I was -- I was accurate, but the parts I was responsible for, the SAFE Charts and heavy involvement in the Safety Analysis Flow Diagrams.

Q. Okay. Now, Section 30 CFR 250, 802(e)(5) actually speaks of two certifications: One is to be made that the design is approved by Registered Professional Engineers. We have discussed that.

There's another one that is supposed to be made after the fabrication has been done, and it is supposed to certify that the system as fabricated conforms to the approved design. Was there ever such a second certification made, as far as you are aware?

MR. HUNTER: Objection, form.

A. I'm not sure that I agree with your interpretation of the -- the remainder of that section.

Q. (By Mr. Perry) Was there ever a second Certification made to the effect that the Production Safety System had been fabricated according to its

System --

A. (Nodding.)

Q. -- where were they installed?

A. In Morgan City at the McDermott Yard.

Q. Okay. And which devices were those?

A. The programmable logic controllers that include Production Safety System functionality are the ESS and the PSS.

Q. Okay. Is -- the ESS and the PSS, is that two separate computers?

A. They are logic controller systems. They comprise multiple actual components.

Q. Okay. Now, the BOEMRE has a statement in its report on its investigation of the ATLANTIS that I am not quoting exactly right now, but it -- the gist of the statement was that BP had made a decision that with regard to certain drawings that accurately reflected the configuration of the facility it was not necessary to upgrade those documents from one phase such as issued for construction to another one like as-built.

Do you remember reading that portion of the BOEMRE's statement?

MR. HUNTER: Objection, form.

A. Vaguely.

Q. (By Mr. Perry) Okay. Do you have any

information about when or how such a decision was made?

A. I'm not aware that there was a specific decision.

Q. If there was a specific decision -- decision, you're not aware of it, and you were not a part of it; is that true?

A. That's correct.

Q. Okay. There are some BP project documents which require that BP Lead Engineers approve Engineering documents in order for them to progress through the system, and they also require that the Lead Engineers approve as-built versions of the documents before the equipment is deployed to the field.

My question to you is: Are you aware of any decisions by BP to not require those approvals to occur?

MR. HUNTER: Objection, form.

A. Could I see those documents you're referring to?

Q. (By Mr. Perry) Well, I really wasn't planning to get them out and show them to you, and I'm not even asking you to assume that what I said is right. I'm just asking you whether you're aware of any decisions that the Engineers do not have to do those things?

A. I'm not aware of any decision like that.

CHANGES AND SIGNATURE

WITNESS NAME: FRANK X. RAGAN, IV

DATE OF DEPOSITION: SEPTEMBER 8, 2011

PAGE	LINE	CHANGE	REASON
110	18	change "Commission Assistant" to "Commissioning assignment"	mistaken transcription
111	8	revise "changing" to "changes"	mistaken transcription
134	24	revise "Snyder" to "Schneider"	spelling
135	2	revise "Snyder" to "Schneider"	spelling
135	6	revise "Snyder" to "Schneider"	spelling
137	17	revise "Snyder" to "Schneider"	spelling
137	22	revise "Snyder" to "Schneider"	spelling
170	17	revise "planned" to "plan"	mistaken transcription
186	25	revise "VOM" to "BOEM"	mistaken transcription
193	13	revise "bases" to "basis"	mistaken transcription

I, FRANK X. RAGAN, IV, have read the foregoing deposition and hereby affix my signature that same is true and correct, except as noted on the attached Amendment Sheet.

FRANK X. RAGAN, IV

THE STATE OF Texas)

COUNTY OF Harris)

Before me, Frank X. Ragan , on this day personally appeared FRANK X. RAGAN, IV, known to me (or proved to me on the oath of TX DL 11393613 or through) to be the person whose name is subscribed to the foregoing instrument and executed the same for the purposes and consideration therein expressed.

GIVEN UNDER my hand and seal of office this 27 day of September , 2011.

Notary Public in and for
The State of Texas

ESTHELA GARZA
My Commission Expires
March 30, 2015

IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF TEXAS
HOUSTON DIVISION

UNITED STATES OF AMERICA EX REL. KENNETH W. ABBOTT; KENNETH W. ABBOTT, INDIVIDUALLY; AND FOOD & WATER WATCH, INC.,	)	
Plaintiffs,	)	CIVIL ACTION NO. 4:09-CV-01193
v.	)	JURY DEMANDED
BP EXPLORATION AND PRODUCTION, INC., ET AL.	)	
Defendants.	)	

REPORTER'S CERTIFICATION
TO THE ORAL AND VIDEOTAPED DEPOSITION OF
FRANK X. RAGAN, IV,
AS A CORPORATE REPRESENTATIVE
SEPTEMBER 8, 2011

I, Emanuel A. Fontana, Jr., Certified Shorthand Reporter in and for the State of Texas, hereby certify to the following:

That the witness, **FRANK X. RAGAN, IV**, was duly sworn by the officer and that the transcript of the oral deposition is a true record of the testimony given by the witness;

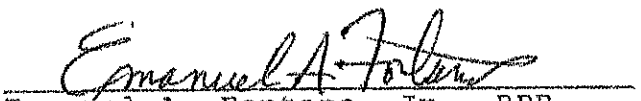
That the deposition transcript was submitted on September 14, 2011, to the witness or to Attorney Mr. David Perry, for the witness to examine, sign, and return to Worldwide Court Reporters, Inc., by October 14, 2011.

That the amount of time used by each party at the deposition is as follows:

Mr. Perry - 5 Hours, 10 Minutes

I further certify that I am neither counsel for, related to, nor employed by any of the parties in the action in which this proceeding was taken, and further that I am not financially or otherwise interested in the outcome of the action.

SUBSCRIBED AND SWORN to by me on this 8th day of September, 2011.



Emanuel A. Fontana, Jr., RPR
Texas CSR No. 1232
Expiration Date: 12/31/12
Worldwide Court Reporters
Firm Registration No. 223
3000 Weslayan, Suite 235
Houston, Texas 77027
(713) 572-2000

EXHIBIT 47

Discovery Ex. No. 75
Cause No.
4:09-cv-01193
Abbott v. BP

From: Ragan, Frank <Frank.Ragan@mustangeng.com>
Sent: Saturday, November 12, 2005 9:35 AM
To: Dejohn, Kenneth P <Kenneth.Dejohn@bp.com>
Cc: Osborn, Linn (Mustang Engineering) <Linn.Osborn@mustangeng.com>; Sustala, Dennis R <Dennis.Sustala@BP.com>
Subject: RE: Information for the MMS

The Fire and Gas was completely reworked at Ingleside, and then we have had significant rework through the MoC process. Some systems like Ballast have had little change.

Frank

From: Dejohn, Kenneth P [mailto:Kenneth.Dejohn@bp.com]
Sent: Fri 11/11/2005 4:22 PM
To: Ragan, Frank
Cc: Osborn, Linn; Sustala, Dennis R
Subject: RE: Information for the MMS

color=#0000ff size=2>Dennis- Can we wait for "As-Builts"? It may be quite a while. We could supply the last issued set quickly. As Frank says, we have no "Pride" in these documents. I am sure he could find discrepancies if he dug deep enough.

color=#0000ff size=2>Frank- How radical are the changes on the red lines?

color=#0000ff size=2>Ken
color=#0000ff size=2>713-962-4155

From: Ragan, Frank [mailto:Frank.Ragan@mustangeng.com]
Sent: Friday, November 11, 2005 2:41 PM
To: Dejohn, Kenneth P
Cc: Osborn, Linn (Mustang Engineering); Sustala, Dennis R
Subject: RE: Information for the MMS

Ken,

We can provide them, if that's what you need. Depending on how soon you need them, I can either give you the last issued set, a copy of our open revision redlines, or in the near future our Integration Site "As-Builts".

These documents were created by the FST, and bear little resemblance to the topside C&E, much less the SAFE Chart. I have no "pride" in these documents.

Frank

From: Dejohn, Kenneth P [mailto:Kenneth.Dejohn@bp.com]
Sent: Fri 11/11/2005 9:40 AM
To: Ragan, Frank
Cc: Osborn, Linn; Sustala, Dennis R
Subject: Information for the MMS

Frank- Brian of the MMS has requested "Cause and Effects" for the Hull. This could be real tricky since we did not even give the MMS "Cause and Effects" for the topsides and we do not have a SAFE Chart for the hull. What do you think we should give them and what shape is it in?

Redacted

Dennis- Any further thoughts based on your discussion with the MMS?

Ken
size=2>713-962-4155

Attention:
This e-mail is confidential and may be protected by legal privilege. If you are not the intended recipient you should not copy it, re-transmit it, use it or disclose its contents, but should return it to the sender immediately and delete your copy from your system. Internet emails are not necessarily secure. The

company does not accept responsibility for changes made to this message after it was sent.

While all reasonable care has been taken to avoid the transmission of viruses, it is the responsibility of the recipient to ensure that the onward transmission, opening or use of this message and any attachments will not adversely affect its systems or data. No responsibility is accepted by the company in this regard and the recipient should carry out such virus and other checks as it considers appropriate.

Attention:
This e-mail is confidential and may be protected by legal privilege. If you are not the intended recipient you should not copy it, re-transmit it, use it or disclose its contents, but should return it to the sender immediately and delete your copy from your system. Internet emails are not necessarily secure. The

company does not accept responsibility for changes made to this message after it was sent.

While all reasonable care has been taken to avoid the transmission of viruses, it is the responsibility of the recipient to ensure that the onward transmission, opening or use of this message and any attachments will not adversely affect its systems or data. No responsibility is accepted by the company in this regard and the recipient should carry out such virus and other checks as it considers appropriate.

Redacted

EXHIBIT 48

IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF TEXAS
HOUSTON DIVISION

UNITED STATES OF AMERICA EX REL. KENNETH W. ABBOTT; KENNETH W. ABBOTT, INDIVIDUALLY, AND FOOD & WATER WATCH, INC.; Plaintiffs,	§	
VS	§	CIVIL ACTION NO. 4:09-CV-01193
BP EXPLORATION AND PRODUCTION INC, INC., ET AL; Defendants.	§	PJURY DEMANDED

ORAL AND VIDEOTAPED DEPOSITION OF
BP, PLC, BP AMERICA, INC., BP EXPLORATION & PRODUCTION, INC., AND BP PRODUCTS NORTH AMERICA BY AND THROUGH

GARRICK MALONE

AUGUST 30, 2011

COPY

WORLDWIDE
Systems Technology for the Litigation World
Litigation Group•Court Reporting•Video Production•Videoconferencing
For U.S. & International Services
800 - 745 - 1101

MR. WATT: Object to form.

A. I believe that all the responsive documents to this request for production here, No. 1, were produced.

MR. PERRY: Okay. Now, I'm going to object to that as being nonresponsive.

Q. (BY MR. PERRY) That's a legal thing I'm doing. But what it means is I don't think you answered the question, okay?

A. Okay. And I -- okay.

Q. Now --

A. Yeah.

Q. -- and let me just say this: I know that you are prepared to testify with regard to anything that you believe that all responsive documents have been produced, right?

A. Yes.

Q. Let's just stipulate that you -- you've testified that as far as you believe, all responsive documents have been produced, okay?

A. That is my belief, yes.

Q. And you don't need to say it particularly again, because it's in the record and I understand it and I'm probably not going to ask you that again.

A. Okay.

Q. But what I did ask you was a specific question

that I'd like to get the answer to, which is: Did the search locate a particular body -- identifiable group or body of documents that would constitute the certified design and as-built plans and specifications for BP Atlantis which are on file at BP's Houston offices? Did the search locate such a group of documents, as far as you know?

MR. WATT: Objection, form.

A. I don't know.

Q. (BY MR. PERRY) You don't know?

A. No.

Q. Okay. One of the things -- and I'm going to kind of skip around. But one of the things that at one point was asked for you-all to produce -- there was a letter written back in -- I'm sorry.

MR. PERRY: Let me see that that I just handed back to you, Shanna.

Q. (BY MR. PERRY) There was a letter written back in August of 2010 by BP, signed by Simon Todd, whereby BP produced some certain documents to the BOEMRE. When I say the BOEMRE, that would be written in all capitals, B-O-E-M-R-E. You know what I mean when I say the BOEMRE, sir?

A. Yes.

Q. Okay. And one of the things we asked for was for

A. Yes.

Q. And you're not aware of any documents that resulted from those searches that you know people were instructed to conduct; is that true?

A. I -- right, I don't know, right.

Q. And if we find something among the material produced to us, then we do, and if we don't we don't. If we don't it just didn't exist, right?

A. That's my belief, yes.

Q. Okay. Now, who at BP would you expect would have knowledge of such documents if they do exist?

A. To which number are we talking about right now?

Q. We're talking about documents that would explain which documents would be as-built even though they don't say that.

A. I think Dennis Sustala, Ken DeJohn, Bill Broman, Ryan Malone, I think those.

Q. Okay. Now, were the people doing searches also instructed to look and try to find lists that might be made that -- that -- that BP had made of drawings which really were as-built drawings but they didn't show on the face of them to be an as-built in so many words?

MR. WATT: Objection, form.

A. Say that one more time.

Q. (BY MR. PERRY) BP told the BOEMRE that they

could tell that certain drawings were actually as-builts, although they didn't have the word "as-built" written on them.

And my question is: Was there a search done to try to find lists or create lists of which drawings would appear in that category?

A. I believe so.

Q. Okay. And was there any such list found or created?

A. Not that I'm aware of.

Q. Now, obviously -- well, I'm -- strike "obviously."

But if BP wanted to revise the drawings that were really as-built to write "as-built" on them, it would have to figure out which ones they were, right?

A. Sounds reasonable.

Q. But you-all were not able to find any listings or documentation that would indicate which such documents there were --

MR. WATT: Objection, form.

Q. (BY MR. PERRY) -- right?

A. Well, in -- to be honest, this goes back to why we produced all of -- you know, this Documentum production, because you have all the current revisions in there, and so you can just pull up the -- the latest

drawing that you need and you know it's the latest drawing.

Q. The latest drawing is the latest drawing, right?

A. There you go.

Q. Maybe it's an as-built and maybe it's not, right?

MR. WATT: Objection, form.

A. I don't -- I don't -- I don't know the ins and outs of the -- I know there's a lot of terminology around as-builting, and I'm not the expert on that -- that phrasing, so I'm going to not answer that one.

Q. (BY MR. PERRY) The -- the reason -- one of the reasons that y'all produced the entire Documentum to us --

A. Uh-huh.

Q. -- is that when you go to find the specific body of documents that is the as-builts, you know, it is -- it -- and the way I ask about in Question 1 that we discussed --

A. Uh-huh.

Q. -- you can't tell what the specific body of documents is, right?

MR. WATT: Objection, form.

Q. (BY MR. PERRY) So you have given us the whole Documentum so we can try to figure it out for ourselves.

MR. WATT: Objection, form.

A. Can you -- can you rephrase what you're asking?

THE STATE OF TEXAS)
COUNTY OF HARRIS)

REPORTER'S CERTIFICATION
DEPOSITION OF BP, PLC, BP AMERICA, INC., BP EXPLORATION & PRODUCTION, INC., AND BP PRODUCTS NORTH AMERICA
BY AND THROUGH GARRICK MALONE
TAKEN AUGUST 30, 2011

I, RENE WHITE MOAREFI, Certified Shorthand Reporter and Notary Public in and for the State of Texas, hereby certify to the following:

That the witness, BP, PLC, BP AMERICA, INC., BP EXPLORATION & PRODUCTION, INC., AND BP PRODUCTS NORTH AMERICA BY AND THROUGH GARRICK MALONE, was duly sworn by the officer and that the transcript of the oral deposition is a true record of the testimony given by the witness;

That the original deposition was delivered to DAVID E. PERRY, ESQ.;

That a copy of this certificate was served on all parties and/or the witness shown herein on

_____.

I further certify that pursuant to FRCP No. 30(f)(i) that the signature of the deponent:

XXX was requested by the deponent or a party before the completion of the deposition and that the signature is to be before any notary public and returned within 30 days from date of receipt of the transcript. If returned, the attached Changes and Signature Page contains any changes and the reasons therefor;

____ was not requested by the deponent or a party before the completion of the deposition.

I further certify that I am neither counsel for, related to, nor employed by any of the parties in the action in which this proceeding was taken, and further that I am not financially or otherwise interested in the outcome of the action.

Certified to by me this 31st day of August, 2011.

Rene Moarefi

RENE WHITE MOAREFI, CSR, CRR, RPR
CSR NO. 3070; Expiration Date: 12-31-12
My notary commission expires 10-28-14
WORLDWIDE COURT REPORTERS
3000 Weslayan, Suite 235
Houston, Texas 77027
1-800-745-1101

EXHIBIT 49

From: Ward, Charlos C
Sent: Monday, August 30, 2010 5:16 PM
To: Smith, Kevin L (Westney) <Kevin.Smith3@bp.com>
Subject: REQUEST: Atlantis Milestone Chart

Kevin, would you please create a Milestone schedule with the below Atlantis activities; I will email you the relevant subsea milestones shortly. The information has been requested from our regulators, the Bureau of Ocean Energy Management, and is needed by 9:00 am tomorrow morning.

Atlantis Project Timeline

Topsides- McDermott Fabrication Yard- Amelia, LA

Cut steel for Topsides- June 25, 2003
Fabricate Topsides Modules at McDermott- June 2003 through May 2006
Set Topsides Modules on barges at McDermott- May 19, 2005 through May 27, 2005

Hull- DSME Fabrication Yard- Okpo, Korea

Cut steel for Hull- December 1, 2003
Fabricate Hull December 2003 through March 2005
Dry Dock- June 2004
Hull Sail-away from Korea- March 31, 2005

Integration- Kiewit Offshore Services (KOS)- Corpus Christi, TX

Hull Arrives at Corpus- May 25, 2005
Integration- May 2005 trough August 2006
PQ Sail-away from Corpus- August 7, 2006

Offshore- Gulf of Mexico- GC-787

PQ arrives at GC-787- August 12, 2006
Offshore Hook-up and Subsea Integration- August 2006 through October 2007
First production- October 6, 2007

Thanks, Charlos

Redacted

EXHIBIT 50

IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF TEXAS
HOUSTON DIVISION

UNITED STATES OF AMERICA EX REL. KENNETH W. ABBOTT; KENNETH W. ABBOTT, INDIVIDUALLY; AND FOOD & WATER WATCH, INC.;	)	
Plaintiffs,	)	CIVIL ACTION
v.	)	NO. 4:09-CV-01193
BP EXPLORATION AND PRODUCTION, INC., ET AL.;	)	JURY DEMANDED
Defendants.	)	

****

ORAL AND VIDEOTAPED DEPOSITION OF
JOHN L. UPCHURCH
OCTOBER 4, 2011

****

ORAL AND VIDEOTAPED DEPOSITION OF JOHN L. UPCHURCH, produced as a witness at the instance of the PLAINTIFFS, and duly sworn, was taken in the above-styled and numbered cause on OCTOBER 4, 2011, from 9:10 a.m. to 2:55 p.m., before Donna L. Garza, CSR, in and for the State of Texas, reported by machine shorthand, at the law offices of Hicks Thomas, LLP, 700 Louisiana, Suite 2000, Houston, Texas, pursuant to the Federal Rules of Civil Procedure and the provisions stated on the record or attached hereto; that the deposition shall be read and signed before any notary public.

A. It was the same topics, primarily discussing the numbers and seeking clarity on the numbers.

Q. Did Ms. Tuttle participate in your conversation with Ms. Snow regarding those issues?

09:36 A. No.

Q. You had a separate individual conversation with Ms. Tuttle?

A. Yes.

Q. And I just want to make sure that you

09:37 discussed the same issues with Ms. Tuttle or if there was something different that we know about. So can you go ahead and give me a quick list of things you discussed with Ms. Tuttle?

A. Well, we discussed the clarity on the

09:37 calculations for the percentages and the numbers -- specific numbers of documents and what class they fell into in terms of whether they were signed, physically initialled, or whether they were typed or whether they were no initials.

09:37 Q. And when you refer to initials, both signed and typed, you're referring to initials of the client, BP, correct?

A. No.

Q. Okay. To whom -- to whom's -- I guess whose

09:37 initials are you referring to?

A. The purpose of the audit was to determine if Technip had followed proper procedure. So the primary discussions I had with them were to ensure that Technip personnel had followed their procedures and signed the documents or initialled the documents as required.

Q. So when you say "Technip personnel," are you referring to Technip engineers or other Technip personnel or a combination?

A. Technip -- Technip engineers and designers.

Q. Are some designers of Technip not engineers?

A. Correct.

Q. And those designers normally, in some instances, initial design drawings, correct?

A. Technip uses the term "designers and drafters" to indicate the people who work on AutoCAD and actually create the drawings.

Q. So would the initials of the designer --

A. Yes.

Q. -- be placed on a --

A. Yes, they would.

Q. -- drawing?

And when you discuss initialled documents, are you referring to professional engineering stamps?

A. No.

Q. Did you discuss professional engineering

stamps with Ms. Tuttle?

A. No.

Q. Did you discuss professional engineering stamps with Ms. Snow?

09:39 A. No.

Q. Anything else you discussed with Ms. Tuttle in preparation for your deposition?

A. No.

Q. And I think we covered this earlier; but in

09:40 terms of your discussions with Mr. Bruneau, did you discuss any substance of the contract or any other matter on which you've been designated to testify today?

A. No.

Q. Other than the counsel you mentioned,

09:40 Ms. Snow, Ms. Tuttle, Mr. Bruneau and your direct reports, have you had any other discussions with any other people regarding the matters on which you've been designated to testify about?

A. Oh, I talked to my wife about it.

09:40 Q. I'm sure she was thrilled.

A. I wouldn't use that word, no.

Q. Anyone else?

A. Not that I can recall.

Q. So, Mr. Upchurch, what's your current title

09:41 with Technip?

A. Vice president, deepwater engineering.

Q. And can you give me a description of your duties in that role?

A. I'm responsible for the operation of the deepwater engineering group, which performs detailed engineering, front-end engineering, procurement support and project management support for both internal and external clients. I have profit and loss responsibility for that group, and I have hiring and firing responsibility as well.

Q. How many people are in the group that you're responsible for?

A. Approximately 320.

Q. How many of those would you say are engineers?

A. 250.

Q. And how would you describe the remaining 70? Just various --

A. Designers and drafters. And there are four administrative assistants.

Q. How long have you held the position of vice president of deepwater engineering?

A. Since January 2008.

Q. And what position at Technip did you occupy prior to that time?

A. The program director for the ExxonMobil

onshore program.

Q. Was that a position within Technip?

A. Yes, it was.

Q. And were your duties and responsibilities limited to work being performed for ExxonMobil?

A. Yes, they were.

Q. Did you have any duties or responsibilities at that time for any work being performed for BP?

A. No.

Q. And when did you become program director for ExxonMobil's onshore program?

A. In 2006.

Q. And do you remember an approximate month?

A. June.

Q. And before June 2006, what was your title?

A. I was the department manager for the subsea engineering department.

Q. Again, that was a position within Technip?

A. Within Technip, yes.

Q. And can you give me a description of your roles and responsibilities?

A. I had responsibility for management of the subsea engineering department, which provides engineering and project support -- procurement and project management support to clients. It's a division

of deepwater engineering.

Q. And when did you first take on that role?

A. In 2003. I don't recall the month.

Q. And as department manager for the subsea engineering department, did you work on or oversee others working on projects for BP?

A. Yes, I did.

Q. And did those projects include the Atlantis facility?

A. Yes, it did.

Q. And what part of the Atlantis facility did you work on or oversee as department manager for the subsea engineering department?

A. Technip's responsibility for the Atlantis project focused in on the subsea system, subsea and riser systems.

Q. And how many people were in the subsea engineering department during that time?

A. It varied during my tenure there. Between 50 and 70 people.

Q. And before you assumed that role, department manager for the subsea engineering department, what was your position?

A. I was the program director over the BP well systems program for Technip.

Q. Can you tell me the name of the college?
A. University of Missouri-Rolla, R-O-L-L-A.
Q. And did you obtain a degree there?
A. Yes, I did.
10:00 Q. What was that degree?
A. It was a BS in petroleum engineering.
Q. And when -- when did you obtain that degree?
A. May of 1980.
Q. Do you have any other degrees?
10:00 A. No.
Q. Now, you are a registered professional engineer; is that correct?
A. Yes, I am.
Q. And that's in the state of Texas, correct?
10:00 A. Yes.
Q. Are you a registered professional engineer anywhere else?
A. No.
Q. And in Texas, to be a registered professional
10:00 engineer, that means you hold a professional engineering license, correct?
A. Correct.
Q. And when did you obtain that license?
A. I believe it was in 1988.
10:01 Q. And does it -- does the license pertain to any

question.

MR. WATT: Objection; form.

A. Again, I'm not specifically conversant as what is required.

10:55 Q. (BY MR. GOODPASTOR) I didn't ask you about specifically. I asked you, are you generally aware that as-built drawings are part of regulatory approval of -- of a floating production system?

MR. LOFTIN: Object to form.

10:55 MR. WATT: Objection; form.

A. I can't recall knowing that prior to going into this discussion. It makes sense to me, but I don't specifically recall reading a regulation or -- or being instructed in a way that says as-built drawings are

10:56 required.

Q. (BY MR. GOODPASTOR) Are PE or professional engineer -- is the issue of professional engineering stamping related to regulatory requirements for a floating production system?

10:56 MR. LOFTIN: Object to the form of the question.

MR. WATT: Objection; form.

A. No.

Q. (BY MR. GOODPASTOR) So you're not aware of

10:56 any regulation that requires any approval by registered

professional engineers for floating production systems?

MR. WATT: Objection; form.

MR. LOFTIN: Object to the form of the question.

10:56 A. To the best I'm aware, there are no specific PE requirements for the scope of our contract -- covered under the scope of our contract with BP.

Q. (BY MR. GOODPASTOR) Well, that's not what I asked you. I asked you, are you aware of any regulatory 10:56 requirement regarding a floating production system that relates to approval by professional engineers?

MR. LOFTIN: Object to the form of the question.

MR. WATT: Objection; form. Objection; 10:57 scope.

A. I'm not conversant on the rules associated with floating offshore facilities and regulatory approval. So, no, I'm not aware of what the PE requirements would be for a floating offshore system.

10:57 Q. (BY MR. GOODPASTOR) That's not what I asked you. I said, are you aware of any approval requirements by registered professional engineers regarding a floating production system?

MR. LOFTIN: Objection; asked and 10:57 answered.

A. Any federal regulation? Is that your question?

Q. (BY MR. GOODPASTOR) That's my question.

A. I'm not aware of federal regulations regarding PE stamping.

Q. Well, that's not what I asked you.

A. Okay.

Q. Do you equate --

A. All right.

Q. Do you equate approval of -- by registered professional engineers with PE stamping?

A. Yes.

Q. Okay. Are you aware of any regulation that may apply to the Atlantis facility that relates to as-built drawings?

MR. LOFTIN: Objection to the form.

MR. WATT: Objection; form. Objection; scope.

A. No.

Q. (BY MR. GOODPASTOR) Do you believe that there is no federal regulation that applies to the Atlantis facility that concerns as-built drawings?

MR. WATT: Objection; form. Objection; scope.

MR. LOFTIN: Object to the form.

BP regarding the allegations that Ken Abbott made concerning the status of engineering drawings on the Atlantis facility, correct?

MR. WATT: Objection; form.

11:38 A. I don't believe I ever said that.

Q. (BY MR. GOODPASTOR) Was that correct?

MR. WATT: Objection; form.

A. I'm not aware of us providing documents for BP as it relates to the complaints. We provided numerous

11:38 documents to BP as part of our ongoing work scope. I don't recall any specific documents or any specific instance where BP requested documents in relation -- in regard to this complaint.

Q. (BY MR. GOODPASTOR) Do you recall it

11:38 generally? That is, do you recall anyone at BP asking Technip for documents or drawings concerning Mr. Abbott's allegations regarding the drawings on the Atlantis facility?

MR. WATT: Objection; form and scope.

11:39 A. No.

Q. (BY MR. GOODPASTOR) Did Technip undertake any other effort or did Technip undertake any effort regarding updating drawings at the request of BP?

A. No.

11:39 MR. WATT: I would like to insert a form

Q. (BY MR. GOODPASTOR) In the annulus?
A. No.
Q. In the wellbore?
A. In the wellbore.
11:46 Q. Okay. I think I know what you're talking about.

Would the safety system include controls?

MR. WATT: Objection; form.

A. Yes.

11:46 MR. LOFTIN: Objection; form.

Q. (BY MR. GOODPASTOR) And that would include controls that operate portions of subsea components, correct?

MR. WATT: Objection; form.

11:46 A. Yes.

Q. (BY MR. GOODPASTOR) I think we already -- I apologize if I'm asking you a question you've already answered, but I think that includes -- the safety system would include subsea -- or subsurface safety devices
11:47 like a subsurface safety valve, correct?

MR. WATT: Objection; form.

A. Are you referring to a surface-controlled subsurface safety value?

Q. (BY MR. GOODPASTOR) I think either one. I
11:47 think they can be -- let's start with surface control.

building.

Q. (BY MR. GOODPASTOR) But Technip would have performed the work if BP would have asked them, correct?

MR. LOFTIN: Objection; form.

13:09 MR. WATT: Objection; form.

A. If BP provided us with as-built data and asked us to create as-built drawings, yes, we would have done that.

Q. (BY MR. GOODPASTOR) And the same would go for

13:10 stamping drawings with a professional engineering stamp approval, correct?

A. No.

MR. LOFTIN: Objection; form.

A. No. No.

13:10 Q. (BY MR. GOODPASTOR) Would -- would Technip review the drawings of another contractor and do the work it needed to do to approve those drawings such that they could be stamped with a professional engineering stamp if requested to do so by BP?

13:10 MR. WATT: Object to form.

A. No. Under PE guidelines identified by the State of Texas, the PE stamps can only be applied by personnel who were materially engaged in the execution of the work. So, it's not permissible for a PE to

13:10 simply review someone else's work and stamp it.

Q. (BY MR. GOODPASTOR) Well, if they reviewed all of the work required to generate the drawing -- if a PE reviewed all of the work required to generate a drawing, that PE, or that professional engineer, could 13:11 stamp that drawing, correct?

MR. LOFTIN: Objection; form.

MR. WATT: Objection; form.

A. That's not my understanding of the rules, and that's not the way they're applied at Technip.

13:11 Q. (BY MR. GOODPASTOR) Well, tell me why that -- why you believe that's incorrect.

MR. LOFTIN: Objection; form.

A. Because I've read the PE rules, and I've sat through training with the P -- sponsored by various 13:11 engineering organizations where those rules have been explained and that in order for a PE to utilize his stamp, he has to be the one who performed the work or it had to be performed under his direct supervision.

Q. (BY MR. GOODPASTOR) So, it's safe to say if 13:11 the drawing is missing a professional engineering stamp, then that drawing lacks approval by a professional engineer?

MR. WATT: Objection; form.

MR. LOFTIN: Objection; form.

13:11 A. If a drawing is not stamped -- repeat the

question again.

Q. (BY MR. GOODPASTOR) If a drawing is missing a professional engineering stamp, then that drawing lacks professional engineering approval?

13:12 A. Well, it's -- it's --

MR. LOFTIN: Objection; form.

MR. WATT: Objection; form.

Q. (BY MR. GOODPASTOR) Correct?

A. It's not been stamped, so, yes.

13:12 Q. That my statement was correct?

MR. WATT: Objection; form.

A. I believe it is, yes.

Q. (BY MR. GOODPASTOR) The -- I think I want to go back. The contract between Technip and BP marked as

13:12 Exhibit 283 also called for -- within the scope of work, also called -- called for Technip to provide overall project management support for integration of the subsea well systems with all other project elements, correct?

A. I don't know about "all," but with other

13:13 elements, yes.

Q. And those "other elements" would include the floating systems, correct?

A. Yes.

Q. And pipelines, correct?

13:13 MR. WATT: Object to form.

listing of all the systems on -- on the project.

Q. Well, could you read the Paragraph E for me?

A. Okay. "Contractor will provide project management support services to company to assist with the integration of subsea well systems with all other project elements, including but not limited to floating systems, pipelines, well systems, installation, commissioning, and startup."

Q. Okay. And "contractor" in that paragraph is Technip, correct?

A. Yes.

Q. And "company" in that paragraph is BP?

A. Yes.

Q. Now, we touched on this a little bit earlier; but I want to come back to it. Technip designed control systems for the Atlantis facility, correct?

A. No.

Q. Did Technip design any control systems whatsoever on the Atlantis facility?

A. Not that I'm aware of.

Q. Did Technip -- well, let me put it this way: Did Technip's work for BP on the Atlantis facility involve any control systems?

A. Yes, it did.

Q. And what was that involvement?

A. Technip provided the functional specifications for the subsea control systems to allow the subsea control system manufacturer to do the detail design of the system.

13:16 Q. And what do you mean by the "functional specifications"?

A. Defined what the required function for the system was to be.

Q. And when you refer to "system," are you

13:16 referring to more than one system?

A. I'm referring to the subsea control system as a whole.

Q. And would that include a process safety system control?

13:16 MR. LOFTIN: Objection; form.

MR. WATT: Objection; form.

A. Yes.

Q. (BY MR. GOODPASTOR) And you know what an emergency shutdown system is, correct?

13:17 A. Yes.

Q. And would the control system you just referred to in your answer include an emergency shutdown system?

MR. WATT: Objection; form.

A. The control system would include the emergency

13:17 shutdown system.

analyze the situation, figure out what to do.

Q. (BY MR. GOODPASTOR) But what does it mean in terms of the effect on the system?

MR. WATT: Objection; form.

13:21 Q. (BY MR. GOODPASTOR) What are some potential results from annulus pressure being too high?

MR. WATT: Objection; form.

MR. LOFTIN: Objection.

A. Annulus pressure buildup can result in damage

13:21 to the wellbore, the primary risk.

Q. (BY MR. GOODPASTOR) And that can cause business interruption, correct?

MR. WATT: Objection; form.

MR. LOFTIN: Objection; form.

13:22 A. It could, yes.

Q. (BY MR. GOODPASTOR) It could cause breach of containment, correct?

MR. WATT: Objection; form.

A. It wouldn't normally result in breach of

13:22 containment. It could possibly if left unchecked for an extended period of time with excessive pressure.

Q. (BY MR. GOODPASTOR) Okay. Such as if a monitoring system or alarm had failed, correct?

MR. WATT: Objection; form.

13:22 A. I could conceive of a scenario where, yes,

that could happen.

Q. (BY MR. GOODPASTOR) Now, the -- the crossover valve controls pressure or affects pressure on the annulus, correct?

13:23 MR. WATT: Objection; form.

A. No. I wouldn't say that it affects pressure in the annulus. It simply allows a fluid path that can be opened or closed between the production bore and the annulus.

13:23 Q. (BY MR. GOODPASTOR) So, by opening the fluid path between the production bore and the annulus or -- let me put it a different way.

Does opening the fluid path between the bore and the annulus have any effect on pressure in the

13:23 annulus?

MR. WATT: Objection; form.

A. It could.

Q. (BY MR. GOODPASTOR) In your understanding, is it a problem if the crossover valve opens without

13:23 request?

MR. WATT: Objection; form.

A. Crossover valve is normally closed. So, any time a valve opens when you don't want it to open, that could potentially be a problem, yes.

13:24 Q. (BY MR. GOODPASTOR) Is it desirable to allow

on came back and said that we needed to recreate those drawings and have them stamped by a PE, then, yes, that would take more time.

Q. (BY MR. GOODPASTOR) And that would cost more money under this contract marked as Exhibit 253, correct?

MR. WATT: Objection; form.

A. Yes, it would because you're redoing work.

Q. (BY MR. GOODPASTOR) Mr. Upchurch, what is an as-built drawing?

A. It's a drawing that depicts the condition of a piece of equipment as it was actually built or constructed.

Q. And do you have an understanding of why it might be important to a company to ensure or to -- actually to anyone to ensure that as-built drawings for a production facility like the Atlantis exist?

MR. WATT: Objection; form.

A. Yes.

Q. (BY MR. GOODPASTOR) And what's that understanding?

A. That you want to know what you're operating. You want to know that your equipment was built the way it was intended to be built.

Q. And if -- well, are operating procedures based

upon drawings as they exist?

MR. WATT: Objection; form.

Q. (BY MR. GOODPASTOR) When the procedures are developed?

13:53 MR. WATT: Same objection.

A. Yes.

Q. (BY MR. GOODPASTOR) And will those operating procedures be accurate if the drawings on which they rely do not accurately depict the equipment as installed 13:53 in the facility?

MR. WATT: Objection; form.

A. They could be. It depends on what the difference is between the planned design of the equipment and the actual construction of the equipment.

13:54 Q. (BY MR. GOODPASTOR) And could you foresee that if that difference is critical, then an operation plan that's based upon a drawing that has not been updated to as-built status may create a critical operation or safety problem?

13:54 MR. LOFTIN: Objection; form.

A. I could conceive it would be possible, yes.

Q. (BY MR. GOODPASTOR) And so, in addition to operating procedures, you also understand that safety procedures rely upon the accuracy of as-built drawings, 13:54 correct?

MR. WATT: Objection; form.

A. Yes.

Q. (BY MR. GOODPASTOR) And if those procedures are not based on as-built drawings, that could instruct operators of the facility to take action that is inconsistent with the actual efficient operation of the facility, correct?

MR. LOFTIN: Objection; form.

MR. WATT: Objection; form.

A. If there's significant difference between the way the equipment was designed and the way it was built, that could result in problems with the operations, yes.

Q. (BY MR. GOODPASTOR) And that could cause a business interruption, for example, correct?

MR. WATT: Objection; form.

A. Yes.

Q. (BY MR. GOODPASTOR) And a breach of containment of hydrocarbons, correct?

MR. WATT: Objection; form.

A. Depending on the difference, yes.

Q. (BY MR. GOODPASTOR) And that could also cause a safety problem or a risk of harm to individuals, correct?

MR. WATT: Objection; form.

A. Yes.

Q. (BY MR. GOODPASTOR) Now, when you're developing these operations and safety procedures that rely on the accuracy of as-built drawings, you would agree with me that it's important to be able to distinguish a drawing that is actually as-built from a drawing that is not actually as-built, correct?

MR. WATT: Objection; form.

A. Generally you design the safety systems around the plan design; and if, during the process of fabrication you discover that you didn't build it the way you designed it, which could have a material impact on the safety of the operation, you would go back and modify the -- modify the equipment so that it meets the design requirements.

Q. (BY MR. GOODPASTOR) But it's important to know and be able to distinguish between drawings that are actually as-built and drawings that aren't, correct?

MR. WATT: Objection; form.

A. Yes.

THE VIDEOGRAPHER: You have about three minutes left on tape.

Q. (BY MR. GOODPASTOR) And if you can't make that distinction, you're at risk of using the wrong drawing to develop your operation or safety procedure, correct?

A. Yes.

Q. So under the terms of the contract, any as-built drawings provided by Technip must be marked "as-built," correct?

MR. WATT: Objection; form.

A. Repeat that, please.

Q. (BY MR. GOODPASTOR) Well, under 11.6.3, any as-built drawings provided under the contract must be stamped "as-built"?

MR. WATT: Objection; form.

A. Yes. If we were to provide an as-built drawing, we would stamp it "as-built."

Q. (BY MR. GOODPASTOR) Did BP ever ask Technip to have any drawings stamped or upgraded to as-built status?

A. Yes.

Q. When did they ask that?

A. I don't know -- I don't know the dates.

Q. Was that before the summer of 2008 or after?

A. I believe it was before.

Q. Do you remember when?

A. No.

Q. Do you remember how that request was communicated?

A. Not specifically, no.

THE STATE OF TEXAS)
COUNTY OF HARRIS)

I, DONNA L. GARZA, a Certified Shorthand Reporter in and for the State of Texas, do hereby certify to the following:

That the witness, JOHN L. UPCHURCH, was duly sworn by the officer and that the transcript of the oral deposition is a true record of the testimony given by the witness;

That the deposition transcript was submitted on Oct. 14, 2011, to the witness, or to the attorney for the witness, for examination, signature, and return to Worldwide Court Reporters, Inc., by Nov. 15, 2011.

That the amount of time used by each party at the deposition is as follows:

Mr. Christopher V. Goodpastor - 3 hours, 59 minutes

Mr. Chris Watt - 4 minutes

Mr. Stephen M. Loftin - No time

I further certify that I am neither counsel for, related to, nor employed by any of the parties or attorneys in the action in which this proceeding was

taken, and further that I am not financially or otherwise interested in the outcome of the action.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, on this, the 5th day of October, 2011.

Donna Garza

DONNA L. GARZA, TEXAS CSR NO. 4785
Expiration Date: 12-31-11

WORLDWIDE COURT REPORTERS, INC.
Firm Registration No. 223
3000 Weslayan, Suite 235
Houston, Texas 77027
(800) 745-1101

ATTACHMENT A

IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF TEXAS
HOUSTON DIVISION

UNITED STATES OF AMERICA EX REL. KENNETH W. ABBOTT; KENNETH W. ABBOTT, INDIVIDUALLY; AND FOOD & WATER WA TCH, INC.;	§	
Plaintiffs,	§	CIVIL ACTION NO. 4:09-CV-01193
v.	§	JURY DEMANDED
BP EXPLORATION AND PRODUCTION INC., ET AL.;	§	
Defendants.	§	

DECLARATION OF MARY WHITTLE

I, Mary Whittle, pursuant to the provisions of 28 U.S.C. § 1746, declare:

1. I am an attorney at law licensed to practice before the court of the State of Texas and the District of Columbia. I am counsel for Plaintiffs United States of America *ex rel.* Kenneth W. Abbott, Kenneth W. Abbott, individually, and Food and Water Watch, Inc. (collectively "Plaintiffs") in this matter. I am fully familiar with the facts stated below and submit this declaration and the attached exhibits in support of Plaintiffs' Motion for Summary Judgment. All of the statements of fact in this Declaration are true and correct according to my personal knowledge.

2. Attached hereto as Exhibit 1 is a true and correct copy of Bates Numbered Document BPEP_ABB_01597639 and 01597642, Atlantis Field, Supplemental Conservation Information Document (March 2009).

3. Attached hereto as Exhibit 2 is a true and correct copy of Bates Numbered Document BPEP_ABB_00086577, 00086583 and 00086590, Atlantis Project – Application to Design, Fabricate and Install a Platform (Sept. 2002) ("Platform Application").

4. Attached hereto as Exhibit 3 is a true and correct copy of Bates Numbered Document FWW0008511/512, Lease OCS-G 15606.

5. Attached hereto as Exhibit 4 is a true and correct copy of pages from the deposition of B. Domangue dated November 15, 2011.

6. Attached hereto as Exhibit 5 is a true and correct copy of Bates Numbered Document BPEP_ABB_00094892, the Swift Technical Services LLC–Contract for Services.

7. Attached hereto as Exhibit 6 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03455080, Organization Chart Showing Abbott's position.

8. Attached hereto as Exhibit 7 is a true and correct copy of the Bates Numbered Document ABB0015861 and 0015894, April 24, 2009 Letter to U.S. DOJ with attached Plaintiffs' Original Complaint.

9. Attached hereto as Exhibit 8 is a true and correct copy of pages from the Deposition of K. Abbott dated December 16, 2011.

10. Attached hereto as Exhibit 9 is a true and correct copy of the Bates Numbered Document BPEP_ABB_01524673, email from B. Duff to B. Naseman and W. Broman dated August 15, 2008.

11. Attached hereto as Exhibit 10 is a true and correct copy of pages from the Deposition of B. Duff dated September 12, 2011.

12. Attached hereto as Exhibit 11 is a true and correct copy of the Bates Numbered Document BPEP_ABB_01524667/4668, email from B. Duff to A. Gregg and Bill E. Naseman dated August 15, 2008.

13. Attached hereto as Exhibit 12 is a true and correct copy of pages from the Deposition of T. Curtis dated September 12, 2011.

14. Attached hereto as Exhibit 13 is a true and correct copy of the Bates Numbered Document BPEP_ABB_01521407/1409.

15. Attached hereto as Exhibit 14 is a true and correct copy of the Bates Numbered Document MUSTANG ENG 000205 and 000210, Atlantis Records Management Project Execution Plan, Document number 1440-10-AD-PR-0005.

16. Attached hereto as Exhibit 15 is a true and correct copy of pages from the Deposition of W. Naseman dated November 30, 2011.

17. Attached hereto as Exhibit 16 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03463083, 03463088, 03453108 and 03453109, BP Ombudsman Employee Concerns Program, Confidential Investigation Report, Case No: 2009-005.

18. Attached hereto as Exhibit 17 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00115572/5574, letter from Rep. Grijalva (U.S. Congress) to E. Birnbaum (MMS) dated February 24, 2010.

19. Attached hereto as Exhibit 18 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00115575, letter from MMS to Rep. Grijalva (House of Rep) dated March 26, 2010.

20. Attached hereto as Exhibit 19 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00082829/2830, letter from M. Saucier (MMS) to S. Todd (BP) dated July 21, 2010.

21. Attached hereto as Exhibit 20 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00115564/5566, letter from S. Todd (BP) to M. Saucier (MMS) dated Aug. 9, 2010.

22. Attached hereto as Exhibit 21 is a true and correct copy of pages from the Deposition of D. Sustala dated September 19, 2011.

23. Attached hereto as Exhibit 22 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00086984, letter from T. Laurendine for D. Howard, MMS, to D. Sustala, BP dated December 12, 2002.

24. Attached hereto as Exhibit 23 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00086986/6989, letter from D. Sustala, BP, to D. Howard, MMS, dated January 27, 2003.

25. Attached hereto as Exhibit 24 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00087025, email from T. Laurendine for D. Howard, MMS, to D. Sustala, dated February 25, 2003.

26. Attached hereto as Exhibit 25 is a true and correct copy of the Bates Numbered Document BPEP_ABB_04076454/6455, 04076462 and 04076464, DSME Contract dated Sept. 1, 2001, § 1.3 "Engineering and Design."

27. Attached hereto as Exhibit 26 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00087049/7050, email from T. Laurendine, MMS, to D. Sustala, BP dated January 16, 2005.

28. Attached hereto as Exhibit 27 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00087685, letter from A. Shah for Lars T. Herbst, MMS, to D. Sustala, BP, dated January 16, 2007.

29. Attached hereto as Exhibit 28 is a true and correct copy of pages from the Deposition of D. Sustala dated May 10, 2011.

30. Attached hereto as Exhibit 29 is a true and correct copy of pages from the Deposition of K. DeJohn dated September 14, 2011.

31. Attached hereto as Exhibit 30 is a true and correct copy of pages from the Deposition of S. Todd dated December 5, 2011.

32. Attached hereto as Exhibit 31 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00111486, 00111493 and 00111525, Atlantis Project Floating Systems Team Project Execution Plan.

33. Attached hereto as Exhibit 32 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00112443, email from D. Sustala, BP, and L. Pekel, ABS, dated November 26, 2002 (1:56PM).

34. Attached hereto as Exhibit 33 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00112441/2442, email from D. Sustala to L. Pekel dated November 26, 2002 (4:28PM).

35. Attached hereto as Exhibit 34 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00112440, email from D. Sustala to L. Pekel dated November 26, 2002 (4:38PM).

36. Attached hereto as Exhibit 35 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00112401/2402, email from L. Pekel to D. Sustala dated December 6, 2002 (11:53AM).

37. Attached hereto as Exhibit 36 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00112426/2427, email exchange between P. Ganguly, Millennium Technical Consultants, and D. Sustala, BP, dated November 29, 2002.

38. Attached hereto as Exhibit 37 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00112616, email from D. Sustala, BP, to P. Ganguly, Millennium Technical Consultants dated October 24, 2002.

39. Attached hereto as Exhibit 38 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00112450/2452, email from S. Kinnaman to D. Sustala dated November 22, 2002.

40. Attached hereto as Exhibit 39 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00112629/2630, email from B. Thurmond to D. Sustala dated October 23, 2002.

41. Attached hereto as Exhibit 40 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00112524/2526, email from D. Sustala to K. Jansson, GVA, dated October 24, 2002.

42. Attached hereto as Exhibit 41 is a true and correct copy of pages from the Deposition of R. Peloubet dated September 9, 2011.

43. Attached hereto as Exhibit 42 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00112627, email from D. Sustala to J. Faulker dated October 24, 2002.

44. Attached hereto as Exhibit 43 is a true and correct copy of the Bates Number Document BPEP_ABB_00112508, email from R. Phillips to D. Sustala dated October 25, 2002.

45. Attached hereto as Exhibit 44 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00112453/2454, email from D. Sustala dated November 21, 2002.

46. Attached hereto as Exhibit 45 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00110497/0499, email from D. Sustala (BP) to S. Kinnaman (Mustang) dated March 24, 2004.

47. Attached hereto as Exhibit 46 is a true and correct copy of pages from the Deposition of F. Ragan taken September 8, 2011.

48. Attached hereto as Exhibit 47 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00110014/0015, email from F. Ragan to K. DeJohn, L. Osborn and D. Sustala dated November 12, 2005.

49. Attached hereto as Exhibit 48 is a true and correct copy of the pages from the Deposition of G. Malone taken August 30, 2011.

50. Attached hereto as Exhibit 49 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03493064, email from C. Ward to K. Smith (Hull arrives in Corpus Christi from Korea on May 25, 2005; integration ran from May 2005 through August 2006) dated August 30, 2010.

51. Attached hereto as Exhibit 50 is a true and correct copy of pages from the Deposition of J. Upchurch taken October 4, 2011.

52. Attached hereto as Exhibit 51 is a true and correct copy of pages from the Deposition of R. Berger taken September 15, 2011.

53. Attached hereto as Exhibit 52 is a true and correct copy of the Bates Numbered Document BPEP_ABB_01524687/4688, email from B. Naseman to A. Taylor attaching FST Handover Schedule dated March 5, 2008.

54. Attached hereto as Exhibit 53 is a true and correct copy of pages from the Deposition of L. Osborn taken September 21, 2011.

55. Attached hereto as Exhibit 54 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00115909 and BPEP_ABB_00115917, Specification for Data and Information Handover from Projects into Operations, 1400-85-IM-SP-8700.

56. Attached hereto as Exhibit 55 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03500136 and BPEP_ABB_03500143, Atlantis Engineering Workflow Process.

57. Attached hereto as Exhibit 56 is a true and correct copy of the Bates Numbered Document BPEP_ABB_01631097, BPEP_ABB_01631100 and BPEP_ABB_01631106, Document Control Procedure, ssproj-10-PCPR-000001.

58. Attached hereto as Exhibit 57 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03505121 and BPEP_ABB_03505126, Contractor Document Control Procedure, 1400-10-AD-PR-0219.

59. Attached hereto as Exhibit 58 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03505155 and BPEP_ABB_03505159/5160, MEI Document Control Procedure, 1400-10-AD-PR-0214.

60. Attached hereto as Exhibit 59 is a true and correct copy of the Bates Numbered Document BPEP_ABB_01453338 and BPEP_ABB_01453359/3374, Project Orientation and Procedures Manual, 1440-21-POPM-PR-0001.

61. Attached hereto as Exhibit 60 is a true and correct copy of the Bates Numbered Document MUSTANG ENG 000001, MUSTANG ENG 000072 and MUSTANG ENG 000090, Topsides Design Engineering and Project Services Contract, Ex. A "Scope of Work," Section 2.3.4.1.

62. Attached hereto as Exhibit 61 is a true and correct copy of the Bates Numbered Document T-USA 000001 and T-USA 000056, Well Systems Integrations and Design Services Engineering Contract, Ex. A "Scope of Work," Section 11.6.

63. Attached hereto as Exhibit 62 is a true and correct copy of pages from the Deposition of R. Malone taken September 13, 2011.

64. Attached hereto as Exhibit 63 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03534372/4379, Finance Memo.

65. Attached hereto as Exhibit 64 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03534380, BPEP_ABB_03534382, BPEP_ABB_03534384, BPEP_ABB_03534386, BPEP_ABB_03534388, BPEP_ABB_03534390 and BPEP_ABB_03534392, GoM Atlantis South Supplementary FM and Atlantis Phase 2 Strategy.

66. Attached hereto as Exhibit 65 is a true and correct copy of the Atlantis South Supplement Cost Estimate Summary previously marked as Discovery Exhibit No. 347 in this case.

67. Attached hereto as Exhibit 66 is a true and correct copy of pages from the Deposition of W. Naseman taken November 30, 2011.

68. Attached hereto as Exhibit 67 is a true and correct copy of Bates Numbered Document BPEP_ABB_00091459, email from B. Naseman to W. Broman and B. Duff dated April 25, 2008.

69. Attached hereto as Exhibit 68 is a true and correct copy of the Bates Numbered Document BPEP_ABB_01519199/9200, email from B. Duff to A. Gregg, M. Garland and T. Curtis dated May 6, 2008.

70. Attached hereto as Exhibit 69 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00089380, email exchange from G. Imm to R. Berger dated May 13, 2008.

71. Attached hereto as Exhibit 70 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00115759/5760, email from R. Peloubet to S. Todd dated April 20, 2010.

72. Attached hereto as Exhibit 71 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03482184/2185, email from N. Oza (BP) to S. Berg (Technip) dated July 22, 2008.

73. Attached hereto as Exhibit 72 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03505962/5963, email from L. Osborn (Mustang) to M. Garland (BP) dated May 12, 2009.

74. Attached hereto as Exhibit 73 is a true and correct copy of pages from the Deposition of S. Todd taken May 9, 2011.

75. Attached hereto as Exhibit 74 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00115609 and BPEP_ABB_00115620, email from S. Todd (BP) to B. Domangue (MMS), dated July 3, 2010 (with Power Point presentation attached stating that BP followed its Specification for Handover).

76. Attached hereto as Exhibit 75 is a true and correct copy of the Bates Numbered Document BPEP_ABB_01622474. Email from B. Domangue to D. Sustala dated August 20, 2010.

77. Attached hereto as Exhibit 76 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00082845/2846, email from S. Todd (BP) to B. Domangue dated August 25, 2010.

78. Attached hereto as Exhibit 77 is a true and correct copy of the Title page and pages 7-8 of API RP 14C (Sec. 3.2 and 3.4(e)).

79. Attached hereto as Exhibit 78 is a true and correct copy of Bates Numbered Document FWW0018028/18029, email from W. Hauser to Z. Corrigan dated February 17, 2010.

80. Attached hereto as Exhibit 79 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00085724/5727, letter from B. Domangue, MMS, to D. Sustala, BP, dated May 3, 2007.

81. Attached hereto as Exhibit 80 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00085234, Professional Engineering Statement (Item 5).

82. Attached hereto as Exhibit 81 is a true and correct copy of the Bates Numbered Document BPEP_ABB_01598219/8220, letter from D. Sustala, BP, to Michael Saucier dated February 23, 2005.

83. Attached hereto as Exhibit 82 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00084533/4534, letter from D. Sustala to M. Saucier dated February 25, 2005.

84. Attached hereto as Exhibit 83 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00084932/4933, letter from D. Sustala to M. Saucier dated August 1, 2005.

85. Attached hereto as Exhibit 84 is a true and correct copy of *The Professional Engineering* (Nat'l So. Prof. Eng. July 2007).

86. Attached hereto as Exhibit 85 is a true and correct copy of Bates Numbered Document BPEP_ABB_00082852/2854, email from B. Domangue (MMS) to S. Todd (BP) dated August 31, 2010.

87. Attached hereto as Exhibit 86 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00110518/0519, email from R. Phillips to D. Sustala, J. Hart and L. Osborn dated January 29, 2004.

88. Attached hereto as Exhibit 87 is a true and correct copy of pages from BP Native File Bates Numbered Document BPEP_ABB_00854373 (Title Page and Page 29 of 35), System Certification Package, 1440-35-SB-SP-3033_ATS_SIC_Rev0.doc (contained within TS Subsea Control System 956, Document Number 1440-20-CM-PR-956-8001).

89. Attached hereto as Exhibit 88 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00110497/0499, email from D. Sustala (BP) to S. Kinnaman (Mustang) dated March 24, 2004.

90. Attached hereto as Exhibit 89 is a true and correct copy of the Bates Numbered Document BPEP_ABB_05211191/1193, email from D. Sustala (BP) to A. Laplante (BP) dated March 25, 2004.

91. Attached hereto as Exhibit 90 is a true and correct copy of the Bates Numbered Document T-USA 001407 and T-USA 001419, BP Well Integration and Design Engineering Atlantis Sealing Plan § 3.3.

92. Attached hereto as Exhibit 91 is a true and correct copy of pages from the deposition of D. Elmer dated September 14, 2011.

93. Attached hereto as Exhibit 92 is a true and correct copy of pages from the Deposition of G. Stevick taken December 20, 2011.

94. Attached hereto as Exhibit 93 is a true and correct copy of Bates Numbered Document FWW0008573 and FWW0008620, Site-Specific Environmental Assessment (SEA) No. N-7646 at E-2 (April 17, 2003).

95. Attached hereto as Exhibit 94 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03534711 and BPEP_ABB_03534784, DOCD, Environmental Impact Statement § 8.3.

96. Attached hereto as Exhibit 95 is a true and correct copy of pages from the Deposition of R. Pierce taken December 1, 2011.

97. Attached hereto as Exhibit 96 is a true and correct copy of the Bates Numbered Document BPEP_ABB_04147184 and BPEP_ABB_04147199, Gulf of Mexico SPU-Atlantis, S&O Audit, 30 November 2009 to 11 December 2009 – Entity Verifiable Findings, Audit 0935.

98. Attached hereto as Exhibit 97 is a true and correct copy of BPEP_ABB_04147214 and BPEP_ABB_04147241, Audit Report, Safety & Operations Audit, Final Report 13 January 2010.

99. Attached hereto as Exhibit 98 is a true and correct copy of the Bates Numbered Document BPEP_ABB_02828782/8789 and BPEP_ABB_02828796, Worley Parsons Atlantis PSV-41003 Sizing Check Calculation, August 19, 2010.

100. Attached hereto as Exhibit 99 is a true and correct copy of the Bates Numbered Document BPEP_ABB_04135740, Root Cause Failure Analysis Report – Gas Turbine Generator ZAN-5000 Shutdown.

101. Attached hereto as Exhibit 100 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03514575, email from F. Ragan to W. Dean (Technip) dated February 11, 2008.

102. Attached hereto as Exhibit 101 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03502155/2156, email from S. Maxwell to R. Oneta dated September 22, 2007.

103. Attached hereto as Exhibit 102 is a true and correct copy of pages from the Deposition of S. Cotton taken December 14, 2011.

104. Attached hereto as Exhibit 103 is a true and correct copy of BP Native File Bates Numbered Document BPEP_ABB_02832882, Piping and Instrument Diagram, Pipeline Pumps (Drawing No. 1440-20-PI-DG-4389).

105. Attached hereto as Exhibit 104 is a true and correct copy of Bates Numbered Document BPEP_ABB_03579591/9592, email from R. Berger to B. Broman dated August 26, 2008.

106. Attached hereto as Exhibit 105 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03359747/9757, Safety Shutdown Logic Drawings, BP Document Numbers 1440-35-SB-DG-3021 through 3030.

107. Attached hereto as Exhibit 106 is a true and correct copy of pages from the Deposition of K. Angel taken December 14, 2011.

108. Attached hereto as Exhibit 107 is a true and correct copy of List of BP Controls Malfunctions Documents and Listed Documentation.

109. Attached hereto as Exhibit 108 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03512831, email from B. Young to N. Oza and R. Berger dated January 3, 2008.

110. Attached hereto as Exhibit 109 is a true and correct copy of the Bates Numbered Document BPEP_ABB_04125309, email from N. Oza re: FW Subsea vavles (sic) opening without requested, dated January 7, 2008.

111. Attached hereto as Exhibit 110 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03559672/9673, email from W. Broman to N. Oza dated January 7, 2008.

112. Attached hereto as Exhibit 111 is a true and correct copy of pages from the Deposition of R. Berger taken November 2, 2011.

113. Attached hereto as Exhibit 112 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03626944/6945, email from J. Little re: DC122 Shut in, dated August 10, 2008.

114. Attached hereto as Exhibit 113 is a true and correct copy of the Bates Numbered Document BPEP_ABB_02895422/5423, Functional Design Specification for the Master Control Station, Subsea Control Unit, BP Doc. No. 1440-35-SB-SP-0030.

115. Attached hereto as Exhibit 114 is a true and correct copy of the Bates Numbered Document BPEP_ABB_02408632, Subsea Control System Cause and Effects, BP Doc. No. 1440-35-SB-RP-0114.

116. Attached hereto as Exhibit 115 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03244795, Master Control Station Site Integration Test, BP Doc. No. 1440-35-SB-PR-0130.

117. Attached hereto as Exhibit 116 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00087921 (and internal pages 10-19 through 10-22), Preliminary Deepwater Operations Plan, dated June 21, 2004.

118. Attached hereto as Exhibit 117 is a true and correct copy of pages from the Deposition of L. Holzenthal taken December 13, 2011.

119. Attached hereto as Exhibit 118 is a true and correct copy of the Bates Numbered Document BPEP_ABB_04135705/5709, email from S. Cotton to K. DeJohn and F. Ragan re: FW: Atlantis update, dated August 5, 2008.

120. Attached hereto as Exhibit 119 is a true and correct copy of the Bates Numbered Document BPEP_ABB_04135730, email from S. Cotton to Waterhouse re: Subsea Comms MOC-08-218 Hazard Review, dated October 28, 2008.

121. Attached hereto as Exhibit 120 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03498616/8618, email from R. Peloubet re: Operations Managers Meeting and Higher dated January 22, 2007.

122. Attached hereto as Exhibit 121 is a true and correct copy of pages from the Deposition of W. Castell dated June 22, 2011.

123. Attached hereto as Exhibit 122 is a true and correct copy of pages from the Deposition of G. Cowlam dated June 7, 2011.

124. Attached hereto as Exhibit 123 is a true and correct copy of pages from the Deposition of S. Newman dated September 30, 2011.

125. Attached hereto as Exhibit 124 is a true and correct copy of pages from the Deposition of P. Campbell dated July 12, 2011.

126. Attached hereto as Exhibit 125 is a true and correct copy of pages from the Deposition of R. Turlak dated September 28, 2011.

I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct.

Executed this 4th day of April 2012, in Washington, D.C.

/s/ Mary Whittle
Mary Whittle

EXHIBIT 51

IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF TEXAS
HOUSTON DIVISION

UNITED STATES OF AMERICA EX REL. KENNETH W. ABBOTT; KENNETH W. ABBOTT, INDIVIDUALLY; AND FOOD & WATER WATCH, INC.;	)	
Plaintiffs,	)	CIVIL ACTION
v.	)	NO. 4:09-CV-01193
BP EXPLORATION AND PRODUCTION, INC., ET AL.;	)	JURY DEMANDED
Defendants.	)	

****

ORAL AND VIDEOTAPED DEPOSITION OF
RONALD K. BERGER
SEPTEMBER 15, 2011

****

ORAL AND VIDEOTAPED DEPOSITION OF RONALD K. BERGER, produced as a witness at the instance of the PLAINTIFFS, and duly sworn, was taken in the above-styled and numbered cause on SEPTEMBER 15, 2011, from 9:08 a.m. to 6:00 p.m., before Donna L. Garza, CSR, in and for the State of Texas, reported by machine shorthand, at the law offices of Fulbright & Jaworski, LLP, 1301 McKinney, Suite 5100, Houston, Texas, pursuant to the Federal Rules of Civil Procedure and the provisions stated on the record or attached hereto; that the deposition shall be read and signed before any notary public.

continuously on the operations side as far as Atlantis was concerned?

A. No.

Q. You went into project and then came back to operations?

A. No.

Q. Explain that to me.

A. I -- I -- there was a reorganization and I moved over into the project, and I basically have, since, stayed on the project side. Reorganized again and began working more as a -- in a group that was central to the entire Gulf of Mexico, still supporting -- part-time -- the Atlantis project, but I also support other projects.

Q. Okay. Well, I hadn't really asked you, I guess, what your position is now. So this is a good time to ask you.

A. My current position is I'm a temporary functional lead for the subsea commissioning team in the Gulf of Mexico.

Q. And that would -- that would cover a number of facilities, I gather?

A. That's correct.

Q. And of which, Atlantis is one?

A. That's correct.

Q. And essentially do you work on -- does your work at the present time cover all of the deepwater facilities?

A. I don't -- I don't think we currently have commissioning work on all the deepwater facilities. There's potential, but I would probably estimate maybe 60 percent of the facilities, approximately, we -- there's subsea commissioning work going on.

Q. So your -- your role covers all of the deepwater work -- all the deepwater facilities that actually have commissioning going on?

A. That actually have subsea commissioning going on.

Q. What is the difference between "commissioning" and "handover"?

A. Commissioning is the process where you're verifying -- actually verifying the mechanical integrity and that the equipment is safe to -- it actually functions and is safe to start up. Handover is a process, basically, as I understand it, of taking all the previous commissioning certifications, manufacturing certifications, and certifying that the equipment is basically ready to start up. And then the -- and as a -- as an indication to operations, then operations will accept that document and acknowledge that it's all

been done or work that hasn't been done. Sometimes work can be transferred through a handover process for work that hasn't been done. And there will be a -- an agreed action plan on that work that hasn't been done.

09:40 Q. Is handover considered to be part of commissioning or considered to be a separate process? Or how do they relate?

A. I consider it a separate process, but it's -- it's -- commissioning is part of -- you know, is an 09:41 element of the handover process.

Q. Okay. Now, when did you -- was there a period of time that you were the operations manager for Atlantis subsea after production had begun?

A. No.

09:41 Q. When -- when, roughly, did you move back -- move from operations back over to the project?

I could -- I could give you this and you can --

A. That's okay. It's -- it's -- shortly after 09:42 first oil, there was an organization change to where we actually, technically, moved out of operations and into the construction team. I believe that was -- it might have been early 2008 or even Christmas of 2007. I may have that incorrect, but that's roughly as I recall it. 09:42 However, reporting up through the construction team, we

matter, have you done more or less the same thing the whole way through?

A. No. I've done different things through.

Q. Would you kind of break out for me what the different time periods are and how your job changed from one of those time periods to another within the period of 2005 until now?

A. Yes, sir. So, from 2005 to, I believe, 2009, I did approximately the same thing as the -- the senior subsea operations engineer.

Q. Okay.

A. "Senior" being the one -- the subsea operations engineer with the most experience with the team -- within the team of subsea operations engineers that was supporting Atlantis.

Q. Okay.

A. In -- I believe it was the summer of 2009, I may have that off a bit -- there was a reorganization where I became a subsea systems engineer on the project side. At that point in time, I began supporting -- it's -- it's almost an analog, or you know, it's kind of the project equivalent of what we did on the subsea operations team? So -- except operations was interested in operating their equipment. As a subsea systems engineer, I'm looking forward on systems that are being

not receive any handovers. We were involved in the commissioning, and the commissioning work that we did would be part of the handover package. But none of the documentation handover went through us.

15:33 Q. Would that commissioning require reference to documentation?

A. Yes.

Q. Did you experience a situation where there was a delay in any of the efforts being made because of the

15:33 need to continually update many of the applicable documents?

MS. RODGERS: Objection; form.

A. I don't recall any of those delays.

Q. (BY MR. PERRY) At the time -- well, were you

15:34 a part of the commissioning of the subsea system and handing it over to operations?

A. At what point in time are you speaking of?

Q. At the time immediately prior to first oil.

A. I was on the subsea operations team, and we

15:34 were involved with the commissioning of the wells and the system leak test and the dewatering of the flow lines.

Q. Okay. And when the wells were commissioned and handed over, were they handed over complete with all

15:34 of the documentation that would normally accompany the

wells?

A. The commissioning part didn't -- that we did not -- was not responsible for handing over documentation. All we verified was the mechanical integrity and the functionality of those systems. And then we provided that to the handover people.

Q. Well, in order to verify the mechanical integrity and functionality and so forth, does one need to have the -- some of the documentation available?

A. Yes.

Q. For example, when you handed over the wells, did you have the P&IDs for the trees available, the -- the completed P&IDs available?

A. We would have had the P&IDs available that were necessary for that particular commissioning procedure.

Q. All right. In other words, there's a P&ID that goes with each tree; is that right?

A. Yes. Well, there's a P&ID that's available for a -- specific classes of tree.

Q. So, for example, a manifold carries with it a P&ID related to the manifold, right?

A. Correct.

Q. A tree carries with it a P&ID related to the tree?

or --

A. Months.

Q. Would you estimate it was like less than a year?

15:55 A. I don't know.

Q. Okay. Let me hand you --

MR. PERRY: How much time do we have on the tape?

THE VIDEOGRAPHER: 15 minutes.

15:56 (Marked Discovery Exhibit No. 225.)

Q. (BY MR. PERRY) Let me hand you Discovery Exhibit 225 and ask you to read it over to yourself. I want to ask you some questions about it, but I want to give you some time to read it.

15:56 MR. PERRY: Here's a copy, Counsel.

Q. (BY MR. PERRY) And tell me when you're ready to go.

A. Okay.

Q. This exhibit consists of two E-mails, the

15:57 first one in point of chronology is one that you sent on May 11, 2006, to Greg Sills and Gary Imm and Steve Fortune with copies to other people, right?

A. Yes.

Q. Would you just go over with me the reasons,

15:57 the things that were -- that prompted you to send that

E-mail?

A. Mustang was the contractor that was being used to take all of the -- all of the project documentation and load it into ~~handover~~ Documentum (Per Changes/Signature Pg attached). Mustang was also delivering the topsides design. So, they had ~~not~~ a very easy time taking their own documentation, ~~unloading~~ and loading (per changes/signature pg attached) it into Documentum. Technip was taking all the subsea documentation and delivering it to Mustang for them to load.

15:58 Mustang had very little internal knowledge on how to install -- load the Subsea (Per Changes/Signature Pg attached) documentation, and the project management for the people running this were -- they were constantly getting frustrated and would leave the project.

15:58 So the note here happened after a meeting that I had with them to check in on them and they basically -- at this point, they had -- I think the fourth person had actually left, and there was a lot of confusion and uncertainty in the meeting.

15:59 And they had asked me to carry one message back and that was to get somebody who understood the subsea documentation to load it into Documentum, BP representation.

Q. Now, this happens, oh, roughly 18 months

15:59 before first oil, right?

A. The note was sent on May 11th, 2006.

Q. And at the time the note was sent, was the target date -- I don't mean the specific date but in terms of a general time period, was the target of when you were going to get the first oil or when you were going to get to commissioning and handover and all, was that pretty well understood?

A. There would have been target dates that should have been known.

Q. Were you evidencing a concern that this part of the project was either behind schedule or in serious danger of getting behind schedule?

A. I was only exhibiting a concern that they weren't getting their job done. At the time I wasn't worried about the schedule, I don't believe. It was just mainly moving forward because the same thing kept, you know, coming up over and over.

Q. Now, the -- the initials ADHP are defined in here as being the Atlas Documentation Handover Project. Was that a specific identified project with a project number and specifications and all that sort of thing?

A. I don't recall.

Q. You say, "As an end user, I am extremely concerned about whether I'll have access to the proper project documentation post-startup."

Explain to me what that sentence is all about.

A. Well, the project was -- the documentation project was experiencing ~~anarching~~ anarchy (per changes/signature pg attached) and problems on dealing with the subsea documentation that was available only from a management standpoint on getting it coordinated and pushed through the system.

In this particular reference, I was worried that it would actually exist in Documentum, or not, if they didn't get it loaded correctly.

Q. Is proper documentation important to carrying on post-startup?

MS. RODGERS: Objection; form.

A. Certain documentation is necessary to be maintained in the field if emergency events are needed to be handled or maintenance operating procedures.

Q. (BY MR. PERRY) Are there established -- well, let me phrase this this way: At the time you wrote this memo, did you have available to you an established list of what would be considered critical documents for people to have, for operations to have immediately starting -- immediately after startup?

A. Not that I recall.

Q. Did you have the knowledge to make such a list?

A. I don't know.

Q. Is it something that would have required some work to develop as opposed to something you could just sit down and write it out for your --

A. At that particular time, yes.

Q. Okay. Was there ever a time that BP did, in fact, develop a list of all of the documentation that would be critical for operations to have post-handover?

A. I don't know.

Q. Have you ever seen such a list?

A. No.

Q. When you were doing the -- the commissioning work that you were doing, did you ever see such a list?

A. No.

Q. Were you ever given such -- well, obviously, you were never given such a list to work against in the commissioning that you were doing?

A. Commissioning would only look to verify the mechanical integrity and functionality of the system. So it would only use whatever documentation was necessary to execute the commission.

Q. Did anyone ever develop a list of what documentation was necessary to carry out the commission?

A. The commissioning procedures would define the documentation that was necessary to execute the

occasionally.

Q. Did you have a number of -- I'm not sure "complaints" is the right word.

Did you have a number of requests for assistance from people who were seeking documents in Documentum and needed help getting to them?

MR. WATT: Objection; form.

A. No.

Q. (BY MR. PERRY) Did you ever have any such requests for help?

A. Not that I recall.

Q. Let me hand you discovery Exhibit 227 --

(Marked Discovery Exhibit No. 227.)

Q. (BY MR. PERRY) -- and invite you to read over it and then I'll -- tell me when you're ready and I'll ask you some questions about it.

A. Okay.

Q. This starts out with you sending an E-mail to somebody where you tell them that you had heard that they didn't know how to access subsea drawings and you are giving them suggestions, right?

A. Yes.

Q. And you are telling them that you have an as-built register which you keep taped on your wall, right?

A. Yes.

Q. And that it lists the drawings that you need to be able to see, right?

A. Yes.

16:53 Q. And that, when you find what you need, you can go to Documentum and get it, right?

A. Yes.

Q. And in order to do that, would that person need to, I suppose, start out by writing down the

16:54 drawing number or something?

A. That's one of the useful features about the register is you get the drawing number there.

Q. The register you have in front of you, an exhibit, I think, that is the register you're talking

16:54 about, right?

A. Yes. It's a version of it.

Q. And that exhibit number is what?

A. 226.

Q. Okay. And that's just -- that's -- that's a

16:54 certain version that has a date on it that tells you when that particular version of the register was -- was the up-to-date version?

A. That's correct.

Q. Because of the addition of one well after

16:54 another over a period of time, your register would

change from time to time?

A. That's correct.

Q. Okay. So, then, when a person would go there -- go to the doc- -- go to the register, if they had it, and then they would copy down the drawing number and go over to their computer terminal. What would they do in order to gain access to that document?

A. They would go into Documentum, open the Atlantis cabinet, put the document number into the search tab, and click "Go" -- or "Search."

Q. Okay. Now, the guy you were writing to apparently was a gentleman by the name of Barth Rhodes, and he wrote back to you and you guys copied lots of other folks. But he wrote back to you. And he thanked you for your help, and he, in fact -- he reported, in fact, had gone out to Documentum and he indeed had found what he was looking for, but he comments that it was very difficult to find, does he not?

A. It appears so.

Q. And then he says something about asking, I guess, Bill Broman -- who is copied -- Bill somebody -- what's the schedule for getting the documents loaded so we can search and access from PDF -- I'm sorry, SPF.

"All of our guys use SPF for searching drawings and currently have no access to the subsea info

without currently having to login to Documentum separately. We all -- we have all our topside and haul loaded in DWP and accessible through SPF. Don't understand why we can't do the same with subsea."

16:56 Do you know what he's talking about?

A. I'm not familiar with SPF at all or the use of it.

Q. Now, this is dated April 20th of 2010, right?

A. Yes.

16:57 Q. So this is on the order of two and a half years after the beginning of production, correct?

A. Pardon me. I was reading a line when you were speaking. Could you repeat it? (Exhibit 226) (per changes signature pg attached)

Q. The date of these E-mails is on the order of

16:57 two and a half years after the beginning of production?

A. That's approximately correct.

Q. Now, Barth Rhodes, who is he and do you know what his job was back at that time, mas o menos?

A. Barth is one of the offshore -- let's see,

16:58 this may be the only one. No, there's two out there. There's two engineers that rotate offshore and Barth was one of them.

Q. And do you know approximately what his job was?

16:58 A. To be honest, I don't technically know the

WITNESS CORRECTIONS AND SIGNATURE

Please indicate changes on this sheet of paper, giving the change, page number, line number and reason for the change. Please sign each page of changes.

PAGE/LINE	CORRECTION	REASON FOR CHANGE
122/1	Change "SPC" TO "SBC"	Transcription error
122/5	SAME change AS 122/1	SAME REASON
123/1	STRIKE "The -- if the subsea loses" AND Replace with "All of which is designed so"	TRANSCRIPT illogical
123/14	change "SPU" TO "HPU"	TRANSCRIPTION error
16/22	ADD "of the remaining flow lines" AFTER delivery	TRANSCRIPT illogical.
189/8	change "plans" TO "PLEMs"	TRANSCRIPTION error
189/11	SAME change as 189/8	SAME REASON
186/14	INSERT "(Exhibit 226)" AFTER "Emails"	NO REFERENCE TO Exhibit included
190/12	INSERT "(Exhibit 228)" AFTER "Emails"	NO REFERENCE TO Exhibit included

RONALD K. BERGER

WITNESS CORRECTIONS AND SIGNATURE

Please indicate changes on this sheet of paper, giving the change, page number, line number and reason for the change. Please sign each page of changes.

PAGE/LINE	CORRECTION	REASON FOR CHANGE
80/25	change "SPC" to "SBC"	Transcription error
166/4	change "handover" to "Documentum"	Transcription error
166/11	insert "subsea" between "the" and "documentation"	Transcription error
166/5	~~SAY~~ strike "not"	Transcription error
166/6	~~strike "and"~~ change "unloading" to "and loading"	Transcription error
168/4	change "awarching" to "Anarchy"	Transcription error

RONALD K. BERGER

, each page which I have WITNESSED,

I, RONALD K. BERGER, have read the foregoing deposition and hereby affix my signature that same is true and correct, except as noted above IN 5 each errata sheets.

Ronald K Berger

RONALD K. BERGER

STATE OF TEXAS *
COUNTY OF HARRIS *

Before me, CARLA VALENZUELA, on this day personally appeared RONALD K. BERGER, known to me, or proved to me under oath or through Texas Drivers License (description of identity card or other document), to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that they executed the same for the purposes and consideration therein expressed.

Given under my hand and seal of office on this, the 7th day of OCTOBER, 2011.

Carla Valenzuela

Notary Public, State of TEXAS

My Commission Expires: 03-18-2013

CARLA VALENZUELA
Notary Public, State of Texas
My Commission Expires 03-18-2013

THE STATE OF TEXAS)

COUNTY OF HARRIS)

I, DONNA L. GARZA, a Certified Shorthand Reporter in and for the State of Texas, do hereby certify to the following:

That the witness, RONALD K. BERGER, was duly sworn by the officer and that the transcript of the oral deposition is a true record of the testimony given by the witness;

That the deposition transcript was submitted on September 20, 2011, to the witness, or to the attorney for the witness, for examination, signature, and return to Worldwide Court Reporters, Inc., by October 20, 2011.

That the amount of time used by each party at the deposition is as follows:

Mr. David L. Perry - 6 hours, 11 minutes

Mr. Chris Watt - 1 minute

I further certify that I am neither counsel for, related to, nor employed by any of the parties or attorneys in the action in which this proceeding was taken, and further that I am not financially or

otherwise interested in the outcome of the action.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, on this, the 15th day of September, 2011.

Donna Garza

DONNA L. GARZA, TEXAS CSR NO. 4785

Expiration Date: 12-31-11

WORLDWIDE COURT REPORTERS, INC.

Firm Registration No. 223

3000 Weslayan, Suite 235

Houston, Texas 77027

(800) 745-1101

EXHIBIT 52

From: Naseman, Bill E
Sent: Wednesday, March 05, 2008 12:27:34 PM
To: Taylor, Alastair
Subject: FW: Floating Systems Schedule

Attachments: FST Handover Schedule we 29th Feb.xls

Alastair-
FYI
This is a weekly update that I've asked Mike Garland to prepare for me to ensure that we get the FST records management work tied up.

Bill Naseman
Project Services Manager
Atlantis
Office: 281-366-6936
Cell: 832-257-6927
Bill.Naseman@bp.com

From: Garland, Mike L
Sent: Wednesday, March 05, 2008 10:40 AM
To: Naseman, Bill E
Subject: Floating Systems Schedule

Bill.

Please find attached the Floating Systems schedule to complete handover with percentage completes for each line item activity for week ending the 29th February.

There is no two week lookahead this week as Dick is on vacation.

Regards.

Mike.

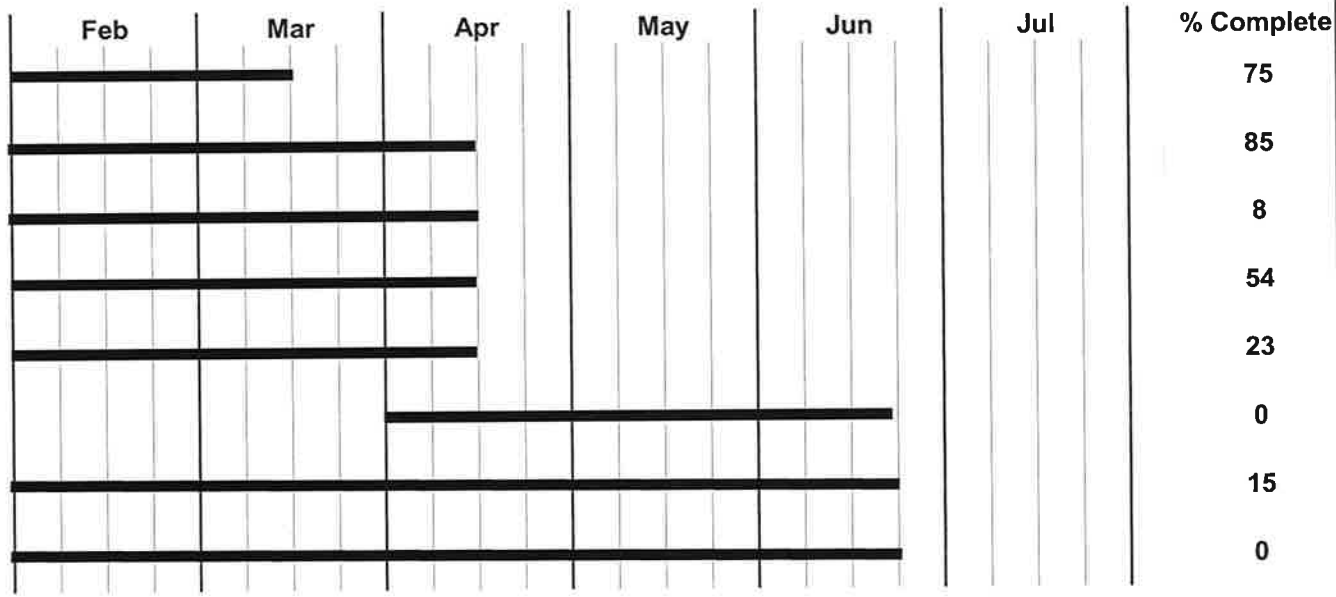
FST Handover Schedule we 29th Feb.xls (35 kB)

Discovery EX No. 349
Cause No.
4:09-cv-01193
Abbott v. BP

Redacted

Schedule to Complete Handover of Floating Systems Documents and Data

Week Ending 29th February 2008



	Activity	% Complete
1.	Major lists, MEL, Valve list, Line List, etc.	75
2.	Vendor Data	85
3.	"Tag Orphans"	8
4.	As Builts	54
5.	FST and TS System Commissioning Packages	23
6.	DSME As Builts, GVAC and other FST documents	0
7.	Archive, Iron Mountain	15
8.	ABS documents	0

1. Compilation of all lists, indexes and schedules (activity is dependent on receiving final information from engineering)
2. Completion of handover of vendor documents and data (activity is dependent on receiving final information from engineering)
3. Idenfication of missing tags
4. As Builts from work carried out at Ingleside and subsequent modifications
5. Compilation and issue on commisioning packages
6. Other As Builts, DSME, GVA base design
7. Archive
8. ABS submitted documents to be indexed and sent to archive

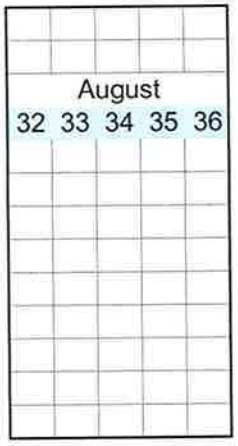
Note: Dick will be on vacation for 1 week in March

Case 4:09-cv-01193 Document 341-2 Filed in TXSD on 04/04/12 Page 3 of 5

Case 4:09-cv-01193 Document 341-2 Filed in TXSD on 04/04/12 Page 4 of 5

FST Handover Schedule

Month	Febr			March					April				May				June					July			
Week Number	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
Activity																									
Major lists, MEL, Valve list, Line List, etc.	7	8	9		11	12																			
Vendor Data	7	8	9		11	12	13	14	15	16	17	18													
"Tag Orphans"	7	8	9		11	12	13	14	15	16	17	18													
As Builts	7	8	9		11	12	13	14	15	16	17	18													
FST and TS System Ceritification Packages	7	8	9		11	12	13	14	15	16	17	18													
DSME As Builts, GVAC and other FST documents													19	20	21	22	23	24	25	26					
Packing, Iron Mountain	7	8	9		11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26					
ABS documents	7	8	9		11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26					



Case 4:09-cv-01193 Document 341-2 Filed in TXSD on 04/04/12 Page 5 of 5

EXHIBIT 53

IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF TEXAS
HOUSTON DIVISION

UNITED STATES OF AMERICA EX REL. KENNETH W. ABBOT; KENNETH W. ABBOT, INDIVIDUALLY; AND FOOD & WATER WATCH, INC.	:	
Plaintiffs,	:	
VS.	:	CIVIL ACTION NO. 4:09-CV-01193
BP EXPLORATION & PRODUCTION, INC., ET AL.	:	

****

ORAL AND VIDEOTAPED DEPOSITION OF
~~LYNN~~ Linn OSBORN
SEPTEMBER 21, 2011
****

[per change signature sheet attcld]

ORAL AND VIDEOTAPED DEPOSITION of ~~LYNN~~ Linn OSBORN, produced as a witness at the instance of the Plaintiffs, and duly sworn, was taken in the above-styled and numbered cause on September 21, 2011, from 1:07 p.m. to 5:21 p.m., before PHYLLIS WALTZ, CSR, TCRR, RPR, CRR, in and for the State of Texas, recorded by machine shorthand, at the offices of Mustang Engineering, L.P., 17420 Katy Freeway, Suite 300, Houston, Texas, pursuant to the Federal Rules of Civil Procedure and the provisions stated on the record or attached hereto; that the deposition shall be read and signed before any Notary Public.

Deepwater Development Construction Redline and As Built Procedures?

A. Yes.

Q. Okay. I'm going to hand to you what's been marked as Discovery Exhibit 274, Mr. Osborn. Do you recognize the documents marked as Exhibit 274 as the documents that have been produced by Mustang Engineering in response to the subpoena?

A. Yes.

Q. And as far as you're aware, there have been no other documents produced by Mustang Engineering in response to the subpoena, correct?

A. That, I don't know.

Q. Are you aware of any other documents produced by Mustang Engineering in response to the subpoena?

A. No, huh-uh.

Q. Okay. Can you tell me your present job title?

A. Project manager.

Q. And the entity that employs you?

A. Mustang Engineering.

Q. And do you know if that's Mustang Engineering, L.P., or Inc.?

A. We usually go with L.P., MELP.

Q. Mustang Engineering is sometimes referred to as MEI, though, too; is that correct?

A. Yeah, there's MEI, that's all.

Q. With respect to the exhibit you have in front of you, Exhibit 274, documents that were produced by Mustang Engineering, are those documents a true and correct copy of what they purport to be, essentially topsides design engineering and project services contract between BP Exploration and Oil and Mustang Engineering, Inc.?

A. As far as I know, yes.

Q. And then the second document, I believe, in there towards the end is the -- the POPM that you referred to?

A. Uh-huh.

Q. Which we discussed earlier, the procedures manual. Is that a true and correct copy of that document?

A. As far as I know, yes.

Q. Are all these documents records that Mustang made at or near the time of the events that are described therein?

MR. DELUCA: Chris, I've told him we'll give you an affidavit. He's not the custodian to do it.

MR. GOODPASTOR: Okay.

MR. DELUCA: We'll give you our business records after that.

A. Rice University.
Q. And what was your degree from Rice University?
A. Mechanical engineer.
Q. Is that a Bachelor of Science?
01:27 A. Yes.
Q. Do you have any other degrees?
A. No.
Q. While at Mustang Engineering for, I guess, the last ten years, you worked on BP projects, correct?
01:27 A. Yes.
Q. One of those projects -- well, I guess BP has a number of deepwater development projects, correct?
A. Correct.
Q. And Mustang works on more than one, correct?
01:28 A. Yes.
Q. And Atlantis is a -- one of the deepwater -- BP deepwater development projects, correct?
A. That was mine. That was the one I worked on.
Q. And you worked on Atlantis, correct?
01:28 A. Yes, yes.
Q. Did you work on any other BP deepwater development projects?
A. No, only in passing, no.
Q. So in passing did you work on Thunder Horse?
01:28 A. Not real -- no. I mean, I consulted with

Q. So do you remember any of the engineers who worked under you before May 2005 other than the -- the people you've mentioned?

A. Frank Gray.

01:34 Q. Was there anyone named Piper?

A. Yes, he worked for Don Voltz.

Q. And he was an engineer?

A. Yeah. And then --

Q. What was his first name?

01:34 A. Donald.

Q. Was there a person named Grimm, G-r-i-m-m?

A. Yes, David Grimm was a jack of all trades type. I think at point -- at one point he was working as the structural lead when Charles Johnson left.

01:34 Q. Okay. Are both Donald Piper and David Grimm engineers?

A. Yes.

Q. And Charles Johnson, is he an engineer?

A. Yes.

01:34 Q. Are you a registered professional engineer?

A. No.

Q. Have you ever considered becoming a registered professional engineer?

A. I've -- I considered it a long time ago, but

01:35 I'm a project engineer and that's not a category.

quickly.

MR. HUNTER: Okay. All right.

Q. (BY MR. GOODPASTOR) Okay. So before sail-away of the entire platform, it was assembled and
01:38 constructed in, I think, Ingleside, correct?

A. Yes.

Q. And that's essentially near Corpus Christi, correct?

A. Uh-huh, yes.

01:38 Q. And that's in Texas, correct?

A. Yes.

Q. And you know that first oil was in October 2007; is that correct?

A. Yeah, sounds right.

01:39 Q. Okay. Mr. Osborn, when did you first hear of -- well, have you heard of Ken Abbott before today?

A. Yes.

Q. And are you aware of his complaints about some of the documentation regarding the Atlantis facility?

01:39 A. I have heard some of them. I can't say I'm aware of any and all.

Q. When did you first hear about those complaints?

A. I think when it broke in the media. I don't
01:39 know, pre- -- well, two years ago, whenever...

Q. And who was at that meeting?

A. I was, Marcheta, Jonathan. The BOEMRE rep was Bryan Domangue. I don't -- they had some other people there. I don't remember.

01:50 Q. Were there two other people, three other people; do you remember?

A. Maybe three, four other.

Q. Anybody else from Mustang there?

A. No, don't remember.

01:50 Q. Anyone from BP there?

A. I think it was just Jonathan.

Q. And what was discussed at that meeting?

A. Mainly, the same kind of things that are -- that are listed here. The -- Bryan was asking about do

01:51 we P.E. stamp everything, do we put the words "As Built" on every drawing. Those, I think were the two main items.

Q. And did you respond on behalf of Mustang?

A. Yes.

01:51 Q. And what was your response to the question do we P.E. stamp everything?

A. No, we do not.

Q. Did you provide them any other information?

A. He said why not, and we said because we don't

01:51 think it's required.

Q. And did you explain why you don't think it's required?

A. Yes.

Q. What was that explanation?

01:51 A. That Mustang is a licensed registered engineering company and that that serves in lieu of individual P.E. stamps.

Q. Anything else on that topic you told Mr. Domangue?

01:52 A. That's basically it.

Q. And just to clarify, you told him that Mustang is both registered and licensed, correct?

A. I believe that's true, yes. I --

Q. And -- and by "licensed," you mean licensed

01:52 under the Texas statute regarding the licensure of professional engineers?

A. I don't know exactly the details on that. I know we talked to our people up the line. I just don't remember the specific details, but, yeah, as far as I

01:52 know, we are licensed in the State of Texas.

Q. As professional --

A. But I don't know -- I don't know whether it's -- I don't know whether -- the law whether or not it's -- there is the same for corporations as there

01:52 is -- or for limited partnerships as it is for

individuals.

Q. Well, you're the one who told Mr. Domangue this information, correct?

A. Yeah.

01:53 Q. Okay. So I'm asking you what you meant by "licensed."

A. That we're a licensed recognized company.

Q. And licensed under the state statute regarding professional engineers?

01:53 A. I -- I don't know whether it's under professional engineers or companies. I don't remember. That was then.

Q. Okay. And you said registered as well?

A. I believe that's the case.

01:53 Q. And what did you mean by "registered"?

A. Same as -- same as licensed.

Q. Did you provide him any other information regarding his question concerning P.E. stamps?

A. I don't remember.

01:53 Q. He also asked about do you -- I think you had said, do we put "As Built" on every drawing.

A. Right.

Q. That's how you paraphrased his question. Did I read that correctly?

01:54 A. Yes.

Q. And what did you say to that?

A. No, we don't use necessarily use the term "As Built." There are other terms. A typical one that was used on this -- on Atlantis was "As Fabricated," "As Checked."

Q. And you told Mr. Domangue that the words "As Fabricated" and "As Checked," according to Mustang Engineering, meant as built?

A. Equivalent, yes.

Q. Is that correct?

A. Yes.

Q. Is there any other terminology that you told him is equivalent to as built in that meaning?

A. There -- there is a term in -- in the POPM that -- that -- I think it was "As Installed."

Q. Any other terminology that you told him at that meeting that's equivalent to as built as regard -- with regards to work by Mustang Engineering?

A. I told him that if a drawing as issued with a previous title is and has been reviewed and is as -- it's built in accordance with the drawings, that we didn't update and re-issue with any -- any particular title. So the fact that a drawing could say revised -- or could say issued for construction, it's still as built when it's done. It reflects the installed

condition of the facility.

Q. Did you tell him how Mustang Engineering verified that?

A. Well, that was actually done by -- in the case of the topsides, the McDermott people and the con- -- the construction and commissioning crew. They did the field inspection.

Q. Mustang didn't go out there and determine whether its design drawings that it issued had been actually -- or whether the Atlantis facility had been constructed in a manner that differed from its design drawings that it issued; is that correct?

A. That's correct.

Q. Did McDermott provide any communication or certification or any other document or physical evidence of the work it had done to verify what Mustang Engineering contends are as-built documents?

A. If -- well, I wasn't privy to all the details of how the construction contractor did it, but they had their inspectors and they inspected against the drawings and if they found something different, they brought us a redline, and we updated the drawings.

Q. My question was a little bit different from that. My question was, "Did McDermott provide any communication or certification or any other document or

physical evidence of the work it had done to verify what Mustang Engineering contends are as-built documents?"

A. Not to us. That was not our scope.

Q. Did they provide it to anyone else?

01:57 A. I don't know that.

Q. So you have no -- or Mustang has no personal knowledge of any of that work that you're telling me you believe that McDermott did?

A. We -- I have -- we have no -- Mustang has no

01:57 evidence for any specific one other than if they did come to us with a redline.

Q. Did you mention McDermott to Mr. Domangue during the meeting in September 2010?

A. I don't know that. I don't remember that.

01:58 Q. Did you mention any specification or procedure employed by Mustang Engineering or BP regarding the P.E. stamping of documents to BOEMRE during that meeting?

A. No, I don't know of any.

Q. Did you mention any specification or procedure

01:58 of Mustang Engineering or BP regarding the labeling or marking of as-built documents to BOEMRE or anyone representing BOEMRE at that meeting?

A. Yes, I mentioned the POPM Section 4.

Q. Did you mention anything else other than that?

01:58 A. I don't believe so. That was the procedure we

information regarding their investigation of Mr. Abbott's allegations; is that correct?

A. Yes.

Q. Did you participate in drafting or preparing any communications by BP to BOEMRE regarding Mr. Abbott's allegations?

A. No.

Q. Do you know if Mustang did?

A. I don't know that.

Q. Did you or Mustang commun- -- communicate with anyone else other than BP or BOEMRE regarding Mr. Abbott's allegations?

A. I don't know of any.

Q. So as far as you know, Mustang didn't communicate with any other vendor or contractor for BP on the Atlantis deepwater project --

A. In relation to the --

Q. -- is that correct?

A. In relation to the request about Abbott, no, that's correct.

Q. Now, some of the work that Mustang did with regard to the Atlantis facility involved the production safety system, correct?

A. Yes.

Q. And I want to get your understanding of what a

system, correct?

A. Yes.

Q. And the ESD system also controls elements of the production safety system that are below the water surface, correct?

A. I believe so, yes. I believe so, yes.

Q. And then Mustang was also responsible for the registered P.E. certification for the electrical and mechanical systems of the production safety system, correct?

A. For the topsides, yes.

Q. Well, for the topsides or for the whole production saves safety system?

A. Just for the topsides.

Q. Well, we -- we talked about Mustang's work here, and you've agreed with me that a good portion of the work affect the subsea portion, correct?

MR. HUNTER: Objection; form.

MR. DELUCA: Objection; form.

You can answer.

Q. (BY MR. GOODPASTOR) You can answer.

MR. DELUCA: We didn't mean to do it in unison.

MR. GOODPASTOR: It was pretty good.

MR. DELUCA: Thanks.

Q. And safe charts were done by Mr. Ragan, correct?

A. Yeah.

Q. And he also did the ESD systems description of block diagrams like we discussed before, correct?

A. Uh-huh.

Q. And then down at the bottom there is other items that other members of your -- Mr. Ragan and Mr. Divers were also responsible for. Do you see those?

A. Yeah.

Q. And then at the bottom it says registered P.E. certification for electrical and mechanical systems, Osborn; do you see that?

A. Yes.

Q. So this says, "Production Safety System Package Prep" at the top and it gives a list of everything that's involved, correct?

A. Yeah.

Q. And you are listed as the person responsible for the registered P.E. certification for the electrical and mechanical systems, correct?

A. Yeah.

Q. How did you go about completing your obligation with regard to that topic?

A. I sent out for people to update and provide

copies of these documents, and we sent them to Dennis Sustala.

Q. Well, how were you -- what measures did you take to ensure that a professional engineer certified each one of these documents?

A. Well, that's, again, done by Mustang Engineering as a -- as a corporate entity.

Q. Okay. So the only certification that you're aware of these documents regarding the production safety system and these drawings for the electrical and mechanical systems is a certification by Mustang Engineering as an entity; is that correct?

MR. HUNTER: Objection; form.

A. Okay. As far as I'm -- I know, that's sufficient. If we were asked by MMS to say, hey, we want you to go ahead and stamp these, we did. I don't remember any issue being raised.

Q. (BY MR. GOODPASTOR) Well, that's not really my question, Mr. Osborn. My question is did you do anything other than what you described, which is having the firm Mustang Engineering -- I guess you described it as the firm certified --

A. Yeah.

Q. -- these drawings?

A. Yes.

Q. Did you do anything else?

A. I don't recall doing anything else. I don't recall it being an issue.

Q. Did Mustang do anything else with regard to that topic?

A. Well, in -- nothing in particular. We have registered professional engineers supervising the different groups. Again, I think Henry Amin is registered, and he's the -- he's mechanical, and Don Voltz for electrical; but I don't remember -- I don't -- I don't remember -- well, I certainly didn't sit and watch anybody apply stamps.

Q. Did Mustang Engineering as an entity apply stamps to the drawings?

A. I don't know that.

Q. Do you have any evidence that they did?

A. The only evidence would be in the -- in the documents submitted to the MMS and they would have them and if they wanted them P.E. stamped, we would have done that.

Q. Well, if there are no stamps by Mustang Engineering firm on the documents, how do you know that a professional engineer has actually certified the drawing?

MR. DELUCA: Object; form.

MR. HUNTER: Objection; form. Go ahead.

MR. DELUCA: Answer. Always answer.

THE WITNESS: Okay.

MR. DELUCA: Ignore us.

02:27 A. The -- the company logo is the equivalent of the stamp.

Q. (BY MR. GOODPASTOR) Well, you have a variety of different engineers working for Mustang, correct?

A. Yes.

02:27 Q. And there are a variety of different experience levels, correct?

A. Yes.

Q. And I would say probably a majority are not registered licensed professional engineers, correct?

02:27 A. Correct.

Q. And you would have to agree with me that a number of unlicensed or a number of engineers who are not registered or licensed professional engineers worked on the drawings with regard to the production safety

02:27 system, correct?

A. Probably, yes.

Q. And so merely having a stamp with Mustang's name on it doesn't convey that a professional engineer has supervised or developed that particular drawing;

02:27 isn't that correct?

MR. HUNTER: Objection; form.

A. The -- the company through its hiring practices and training and keeping a monitor on the experience level and having senior people in senior positions makes sure that everything is done properly.

Q. (BY MR. GOODPASTOR) So is the word "Mustang Engineering" on every drawing that Mustang Engineering creates?

A. Yes.

Q. So according to your definition, every drawing that Mustang Engineering creates is certified by a professional engineer; is that your testimony?

A. It's stood behind by Mustang Engineering as a licensed company.

Q. But it's not certified by a registered professional engineer; isn't that correct?

A. I could -- yeah, I could say that.

Q. So merely putting the name "Mustang Engineering" on a drawing doesn't necessarily -- doesn't certify the drawing by a registered professional engineer or a licensed professional engineer, correct?

MR. HUNTER: Objection; form.

MR. DELUCA: Same objection.

A. It would depend on how the corporate license would be viewed.

Q. (BY MR. GOODPASTOR) Well, if, let's say the corporate registration --

A. Okay.

Q. -- is not viewed as the same as a license of a professional engineer -- will you make that assumption with me?

A. I'm not sure I can.

Q. Well, assume it.

A. Okay.

Q. Okay. If that's the case, then merely putting Mustang's name on the document does not constitute a certification by a licensed professional engineer; isn't that correct?

MR. HUNTER: Objection; form.

MR. DELUCA: Same objection.

A. If that would be the assumption, yes.

Q. (BY MR. GOODPASTOR) And are you aware of any provision under Texas law that equates the registration of an engineering firm with the license of an individual professional engineer?

A. I'm not aware of anything. I -- it's not an area I keep track of.

Q. Now, I want to talk to you about Mustang's contract with BP -- well, let's start with Mustang's work for BP. You mentioned that Mustang does work for

Q. Okay. And by "this," you're meaning Exhibit 263?

A. Yes.

Q. Okay. And so by placing the seal on the document he's certifying -- and let's just make sure we're on the same page here. He's certifying --

A. Work has been performed or directly supervised --

Q. -- by the professional engineer named, and it delineates the scope of his work, correct?

A. Yes.

Q. Okay.

THE VIDEOGRAPHER: About a minute left.

Q. (BY MR. GOODPASTOR) Then are you aware that when the professional engineer stamps that work he's taking full professional responsibility for the work?

A. For his delineated scope of work.

Q. So that's correct with your alteration?

A. I believe that's correct.

Q. If a drawing does not have a stamp on it, then it's not been approved by a registered professional engineer; isn't that correct?

MR. HUNTER: Objection; form.

MR. DELUCA: Same objection.

A. Approved, yeah, I would say.

Q. (BY MR. GOODPASTOR) And then do you understand that it's also a violation --

A. Approved as a professional engineer.

Q. Okay.

03:18 A. Yeah.

Q. That means that professional engineer hasn't approved it, correct?

MR. HUNTER: Objection; form.

A. As a professional engineer, yeah.

03:18 Q. (BY MR. GOODPASTOR) And you would also understand -- I guess with respect to your knowledge of Texas rules, like lawyers, if I'm not licensed by the State, I can't go out and represent that I'm a lawyer licensed by the State.

03:18 A. Yeah.

Q. -- so the same rule would apply to a professional engineer?

A. Yes.

Q. So if you're -- a person or entity is not a

03:19 licensed professional engineer, it's against the rules to represent themselves as a licensed professional engineer; is that correct?

A. Yes.

MR. GOODPASTOR: Okay. Why don't we take

03:19 a break.

professional engineer?

MR. HUNTER: Objection.

MR. DELUCA: Object; form.

Q. (BY MR. GOODPASTOR) Is that consistent with your understanding?

A. No, well. I don't know what portion of what law is governed. It may be an abil- -- it may be covered under -- under a different section.

Q. Well, do you -- do you believe that a business entity can become a licensed professional engineer under -- in Texas?

A. A licensed professional engineering company, as -- as a company.

Q. And you would agree that a business entity cannot become a licensed professional engineer, correct?

MR. HUNTER: Objection; form.

MR. DELUCA: Same objection.

A. Again, I don't know where -- where the laws are, no.

Q. (BY MR. GOODPASTOR) Well, you told me that you believe a business entity can, I guess, register as a professional engineering company; is that what you said?

A. Yes.

Q. Okay. My question to you is can a business

entity obtain a license as a professional engineer?

MR. DELUCA: Object; form.

MR. HUNTER: Objection; form.

A. I don't know.

03:29 Q. (BY MR. GOODPASTOR) Do you believe that to be true? Do you believe that a business entity can become a licensed professional engineer?

MR. DELUCA: Object; form.

A. I -- I think it's equivalent, yes.

03:30 Q. (BY MR. GOODPASTOR) Does --

A. Or possibly higher but...

Q. So do you believe that -- well, is Mustang registered as an engineering firm in Texas?

A. I believe so, yes.

03:30 Q. Does Mustang -- well...

A. I know we have some registration.

Q. Does that registration, in your mind or in Mustang's mind, give Mustang the right to act as a licensed professional engineer?

03:30 MR. DELUCA: Object; form.

A. Yes.

Q. (BY MR. GOODPASTOR) And does that give Mustang the right to stamp drawings as approved by a registered professional engineer in the absence of any

03:31 other stamp on the drawing?

A. All right. Say that one again.

Q. Well, I'm asking you, can the firm, Mustang, stamp a drawing as approved by a licensed professional engineer in Texas if there's no other stamp on the drawing?

03:31

A. I believe so, yes.

Q. So if I told you that -- well...

And your understanding is that right, according to what you've just described to me, comes from Mustang Engineering's registration as an engineering firm in Texas; is that correct?

03:31

A. Yes.

Q. Does it come from any other activity or -- or allowance by the State of Texas?

03:32

A. I don't know that.

Q. Mr. Osborn, I'm going to hand you what's been marked as Discovery Exhibit No. 277, and that is a letter dated September 29th from Michelle McNichol to Bryan Domangue; do you see that?

03:32

A. Yeah.

Q. Have you seen that letter before?

A. Yes.

Q. And that relates to the reference line that says "BP Atlantis project interview," correct?

03:32

A. Yes.

correct?

A. I take it as a fact, if -- and it doesn't surprise me if one of the BP guys said they wanted them stamped, our guys would stamp them, and I would not be 03:52 surprised if one of our P.E.s did it, anyway, without being asked.

Q. So there were certainly some drawings in the topsides that registered professional engineers did not have any involve in -- involvement in, correct?

03:53 A. Well, I suppose, but I can't -- at some point, I mean, there would be a registered P.E. at supervisor's supervisor level. Whether or not he actually put pencil to paper, there would be cases where that wouldn't be the -- wouldn't be true.

03:53 Q. Well, there would be cases where the registered professional engineer, an individual, didn't have any supervisory role in particular drawings, correct?

MR. HUNTER: Objection; form.

03:53 A. I don't know that. It depends on how you consider department managers, you know, and -- and how far up the line the supervising goes.

Q. (BY MR. GOODPASTOR) Well, it's certainly possible, though?

03:53 A. Certainly possible.

Q. And in that situation where if there was a Mustang Engineering firm stamp, you're saying Ms. Lanzone can rely on that as a certification, even if there is no individual professional engineer involvement with the drawing, correct?

03:54

MR. HUNTER: Objection; form.

MR. DELUCA: Object; form.

A. If Mustang's name is on it, we certify that it's been done properly.

03:54

Q. (BY MR. GOODPASTOR) Even if a registered professional engineer, an individual registered professional engineer was not involved?

A. Yes. Directly.

Q. Would there be -- let's say that BP came to

03:54

you and said we want to go ahead and have individual professional engineers stamp all these drawings. That would be extra time and money that you would charge to BP, correct?

A. Yeah.

03:55

Q. And how many drawings were there in the topsides?

A. That we generated, tens of thousands.

Q. Tens of thousands?

A. Yeah.

03:55

Q. And if a -- let's say a -- a drawing had been

worked upon and designed by someone who wasn't a registered professional engineer with no direct P.E. supervision, how long would it take a -- a registered professional engineer to review all that work and
03:55 stan- -- such that he could stamp that drawing as his own?

MR. HUNTER: Objection; form.

A. To his satisfaction, I don't know that.

Q. (BY MR. GOODPASTOR) You're an engineer,
03:55 correct?

A. Yes.

Q. If you were asked to do that, do you think that would take a significant amount of your time?

MR. HUNTER: Objection; form.

03:55 A. It -- it would depend on -- it would depend on the drawing. Some, yes; some, no.

Q. (BY MR. GOODPASTOR) If you had to do it for tens of thousands of drawings, though, that would be significant amount of time, correct?

03:56 A. Yeah.

Q. And that would be a significant amount of money, correct?

A. Well --

MR. HUNTER: Objection; form.

03:56 A. (Continuing) For an individual, yes; for BP,

not a significant amount of money. For the Atlantis project, probably not a significant amount of money.

Q. (BY MR. GOODPASTOR) Did BP ever come to you at Mustang and discuss how much it would cost to stamp
03:56 all of the drawings that Mustang Engineering was working on with a individual registered professional engineering stamp?

A. Not that I'm aware of.

Q. Do you know if BP --

03:57 A. I --

Q. -- BP ever considered Mustang having -- doing that work?

A. I don't know, but I seriously doubt it. I've never known of anyone in this industry stamping all the
03:57 drawings.

MR. GOODPASTOR: Objection; nonresponsive.

Q. (BY MR. GOODPASTOR) Well, we can agree, at the very least, then, that a drawing that doesn't have a P.E. stamp of an individual registered professional
03:57 engineer was not approved by the registered professional engineer, correct?

MR. HUNTER: Objection; form.

MR. DELUCA: Object; form.

A. As John Doe, registered professional engineer
03:57 No. 12345.

Q. (BY MR. GOODPASTOR) Okay. Now, I want to ask you about -- I hand to you what's been previously marked as Exhibit No. 7. And this is a letter from Simon Todd to Michael Saucier at BOEMRE, dated August 9th, 2010.

03:58 A. Uh-huh.

Q. Have you seen this letter before?

A. I believe so.

Q. Did you participate in any way in providing information for the drafting of this letter?

03:58 A. Not in particular, only if it was after my discussions with BOEMRE, which I don't -- don't recall, but it doesn't look -- nothing looks familiar, no.

Q. Do you know if Mustang participated in providing information for this letter?

03:58 A. I believe they did.

Q. Do you know who at Mustang participated in that?

A. Probab- -- senior -- people senior to me.

Q. Do you have any names?

03:59 A. Probably Michelle McNichol and whoever she had do it.

Q. Anyone else?

A. I don't know of anyone.

Q. Do you see at the bottom of the first page it

03:59 says, "The table attached to this letter responds to

your request for a list of registered professional engineers associated with BP's certification in its letter dated August 1, 2005, concerning the design for the mechanical and electrical systems for the Atlantis semi-submersible production unit"?

03:59

Did I read that correctly?

A. Yes.

Q. And if you turn to the back page, it contains a list of engineers, or what purports to be a list of professional engineers; do you see that?

04:00

A. Yes.

Q. Do you know who made this list?

A. No.

Q. Do you know if this list was verified?

04:00

A. No.

Q. Did Mustang Engineering review any of the information on this list before it went out?

A. I don't know that.

Q. Were you aware that two of the professional engineering license numbers listed on this list don't even exist?

04:00

A. No.

Q. Were you aware that one of the engineers listed on this list didn't have his license granted until 2009?

04:00

A. No.

Q. Do you think it would be difficult for a person who wasn't licensed until 2009 to certify a drawing that was made in 2005?

04:00 MR. HUNTER: Objection; form.

MR. DELUCA: Same objection.

A. Yeah.

Q. (BY MR. GOODPASTOR) If you'll look at all the engineers associated with Mustang on this list, is it 04:00 your belief that all these individual professional engineers are taking full professional responsibility for the production safety system drawings?

MR. HUNTER: Objection; form.

MR. DELUCA: Objection; form.

04:01 A. As professional engineer No. 53795, no. They are acting on behalf of the company.

Q. (BY MR. GOODPASTOR) Okay. So as individual professional engineers according to their license, this letter and this list -- well, let me -- let me rephrase 04:01 that.

These professional engineers -- well, now, do you know if any of these professional engineers listed on this list were actually involved with any of the production safety system design drawings?

04:02 MR. HUNTER: I'm sorry, Chris, could you

Q. Okay. And so you told me that you're, Mustang's relying on -- on something other than individual --

A. Yes, it is.

04:08 Q. -- approval by professional engineers.

MR. DELUCA: Object; form.

MR. HUNTER: Objection; form.

Q. (BY MR. GOODPASTOR) And, in fact, you've told me that Mustang Engineering is relying upon its

04:09 registration?

A. Yes.

Q. Okay. Now, now, if -- in the same vein -- and I think I know the answer to this already, but in the same vein if an individual licensed professional

04:09 engineer directly supervised the drawing, then that individual licensed professional engineer is required to have his name on the drawing, correct?

MR. HUNTER: Objection; form.

MR. DELUCA: Object to form.

04:09 A. I don't believe so, no.

Q. (BY MR. GOODPASTOR) Well, are you aware that any of the engineers listed on Exhibit No. 7, did they have any of their names or initials on any of the drawings submitted?

04:09 A. I believe they did, some of them.

A. Yes.

Q. -- is that correct?

A. Yes.

Q. And so there are a variety of people at Mustang who worked on the Atlantis project that aren't actually engineers, correct.

A. Yes.

Q. And each one of these people -- or the work of each one of these people is billed out at an hourly rate, correct?

A. Yes.

Q. And that's how it worked on the Atlantis project, correct?

A. Yes.

Q. Now, if I look at -- on Page ME 50 under "Engineering," it starts with "senior consulting engineer" and under Roman numeral I ends with "engineering technician," correct?

A. Yes.

Q. And so you'd agree with me that these folks are listed in order of seniority -- seniority or costs essentially, correct?

A. Generally, yes.

Q. So a senior consulting engineer is going to be more than a consulting engineer on an hourly basis,

correct?

A. Yes.

Q. And consulting engineer is going to be more than a senior staff engineer on an hourly basis, correct?

A. Yes.

Q. And --

A. Well, there -- there was some overlap in the rates, but generally speaking, yes.

Q. And that general system would apply all the way down the list; that is, if you're higher on the list, that as a general matter it's going to be more expensive of --

A. Yes.

Q. -- at an hourly rate, correct?

A. Yes.

Q. Now, which one of these folks listed as engineers on Page 50 is a registered or licensed professional engineer?

A. Could be a number of them.

Q. Well, tell me, is there any determination of who can be and who can't be?

A. No, not in this.

Q. What experience level does an engineer have, just a plain engineer listed under Roman numeral I?

A. I -- I would -- I don't know that. That's a company title, and I'm not sure what the rules for that are.

Q. Are all senior consulting engineers registered professional engineers?

A. I don't know that. I don't think so, but I don't know that.

Q. You think there would be more registered professional engineers at the senior consulting engineering level than at other levels in this list?

A. Than an engineering technician, yes.

Q. Well, say, there --

A. But we --

Q. -- would you expect there to be more registered professional engineers --

A. In the upper two-thirds than in the lower third.

Q. Yes, that's my question.

A. Yeah.

Q. And so registered professional engineers would be more expensive as a general matter than non-registered professional engineers, correct?

A. Probably.

Q. Mr. Osborn, what's an as-built drawing?

A. It's a drawing that shows the reality of what

A. Yes.

Q. So if you need an as-built drawing or a drawing that accurately reflects the as-built condition of the facility, it's important to be able to determine whether the drawing you're using actually reflects the actual as-built --

A. Yes.

Q. -- condition of the facility, correct?

A. Yes.

MR. HUNTER: Object; form.

Q. (BY MR. GOODPASTOR) And if you can't make that determination, you're at risk for using the wrong type of drawing to develop or finalize your procedure, correct?

MR. HUNTER: Object; form.

A. Yes.

Q. (BY MR. GOODPASTOR) Now, as part of Mustang's contract, Mustang was required to develop as-built drawings, correct?

A. We were -- we were required to pro- -- to as built the drawings, yes.

Q. And you were required to provide those drawings and the associated documentation, correct?

A. The as-built drawings, yes.

Q. And, in fact, the contract requires you to

would not be modified by the Atlantis project.

Q. With -- okay. Without a modification regarding the Atlantis project in particular, this document would control, correct?

04:48 MR. HUNTER: Objection; form.

A. If -- if something -- yes, if something specific to Atlantis wasn't issued, then this would be the -- would be the procedure.

Q. (BY MR. GOODPASTOR) With regard to document

04:48 control procedure, correct?

A. Yes.

Q. Now, was Documentum used to house topside drawings, as-built topside drawings after first oil?

A. I -- I believe so, yes. That -- Documentum

04:48 was not under our control, but I believe that's the case.

Q. Well, there were a lot of times -- a lot of times Documentum didn't have the drawings in it, didn't have the right drawings in it, correct?

04:49 MR. HUNTER: Objection; form.

A. I don't know that.

Q. (BY MR. GOODPASTOR) Well, didn't Documentum lack a lot of the as-built drawings for topsides --

A. No.

04:49 MR. HUNTER: Objection; form.

Q. (BY MR. GOODPASTOR) -- after first oil?
A. No, I don't think so.
Q. In fact, weren't some of the topside documents stored in another spot other than Documentum after first oil?
A. Not that I know of.
Q. I want to mark 279. Do you see that's an e-mail from you to Mike Garland, dated May 12th, 2008?
A. Yeah.
Q. May 12th after -- I guess May 12th, 2008 is about seven months after first oil, correct?
A. Yeah.
Q. And you see in the forwarded message that you sent from Mike Garland, dated May 12th, 2008 as well it states that "The original plan, as you rightly said, was to use documents contained in Documentum. However, this is after handover and project closeout of both topsides and floating systems."

Do you see where Mike Garland wrote that to you?
A. Yes.
Q. And Mike Garland also stated in the next sentence that, We are not yet in that position for topsides and floating systems, so please revert to the floating systems documents contained in the floating

systems server.

Did I read that correctly?

A. Yes.

Q. So on May 12th, 2008 the drawings regarding topsides were not in Documentum, correct?

MR. HUNTER: Objection; form.

A. I don't -- I'm going to have to read this. It's titled "Floating Systems," which is not topsides.

Q. (BY MR. GOODPASTOR) Well, this refers to topsides and floating systems, correct?

A. It says that, yes.

Q. And the topsides documents were located in a place other than Documentum, correct?

A. I -- let me read this, because I don't know that that's what it says.

Okay. In the bottom e-mail, the five-line paragraph, the third sentence, "This would actually be for both FST docs and topsides, as once we turn the documents over, which we have for topsides, BP is in control of the originals and they might have made changes we don't know about. Currently that is not a major concern."

Q. This concerns -- this concerns whether the documents were in Documentum, correct?

A. Yes.

Q. And this confirms that the topsides and floating systems documents were not in Documentum?

MR. HUNTER: Objection; form.

MR. DELUCA: Same objection.

04:53 A. Okay.

Q. (BY MR. GOODPASTOR) Is that correct?

A. That's what this says.

Q. And it confirms that, in fact, those documents were stored in a place other than Documentum on

04:53 May 12th, 2008, correct?

MR. HUNTER: Objection; form.

A. Well, it says that the floating system documents are contained on the floating system server.

Q. (BY MR. GOODPASTOR) And the floating system

04:54 server --

A. Is not ours.

Q. -- is separate from Documentum, correct?

A. Yeah. It's not Mustang's.

Q. And it also says that "documents were to be

04:54 stored in Documentum after handover and project closeout." Do you see that?

A. Which -- which paragraph is that in?

Q. That's in the first sentence from the em-mail from Mike Garland to you.

04:54 A. I see, yeah.

Q. So that's correct? I read that correctly?
A. Yes.
Q. And then it says, "We are not yet in that position for topsides and floating systems."
04:54 A. That's what Mike wrote.
Q. So this confirms that final as-built documents for topsides and floating systems were not in Documentum at this time, correct?
MR. HUNTER: Objection; form.
04:54 MR. DELUCA: Object; form.
A. That appears to be what Mike wrote.
Q. (BY MR. GOODPASTOR) And Documentum lacked the required as-built documents for topsides and floating systems at first oil as well, correct?
04:55 MR. HUNTER: Objection; form.
MR. DELUCA: Object; form.
A. That is the implication you get from Mike's e-mail, yes.
Q. (BY MR. GOODPASTOR) I want to ask you
04:55 about -- in fact, that's what the e-mail states, correct?
MR. HUNTER: Objection; form.
MR. DELUCA: Objection; form.
A. That's how I read it.
04:55 Q. (BY MR. GOODPASTOR) I want to ask you about

some names of the Mustang personnel, see if you can help me out with some initials.

A. Okay.

Q. Okay. RMM.

04:55 A. Okay. Do you know what kind of document it was on?

Q. Well, these are initials that appear on drawings. So there could be a variety of initials on drawings, correct?

04:55 A. Yes.

Q. And people could be engineers or --

A. Designers, any -- yeah.

Q. And they could be something other than an engineer, correct?

04:55 A. Yeah.

Q. And so someone could be a non-engineer and still have an initial on a drawing, correct?

A. Yes.

Q. So I'm going to ask you about these initials

04:56 to see if you can help me.

A. Okay.

Q. RMM?

A. Nope, not off the top of my -- no.

Q. DAV?

04:56 A. Donald -- Don Voltz.

WITNESS CORRECTIONS AND SIGNATURE

LYNN OSBORN SEPTEMBER 21, 2011

Please indicate changes on this sheet of paper, giving the change, page number, line number and reason for the change. Please sign each page of changes.

PAGE/LINE	CORRECTION	REASON FOR CHANGE
1/11	change Lynn to Linn	misspelled
1/13	same as above	
5/3	same as above	
7/1	change Lommus to Lummus	misspelled
22/8	same as above	
28/4	change Gray to Ragan	incorrect name
56/15	change I to I'm	
75/10-11	change conceptional to conceptual, preliminary,	
77/5	change sea to see	
78/4	change admit to call that	
90/20	change on to in	
96/7	change DES to PCS	incorrect name
97/18	change bu to but	
102/10	change starred to started	
105/22	change but I to I don't	
119/20	change Sharla's ward to Charles Ward	incorrect name
120/9	change Lynn to Linn	misspelled
129/4	delete are in "we're a reimbursable are contractor"	

LYNN OSBORN

I

I, LYNN OSBORN, have read the foregoing deposition and hereby affix my signature that same is true and correct, except as noted above.

LYNN OSBORN

STATE OF T E X A S)
COUNTY OF Harris)

Before me, Laurette D. Bruder, on this day personally appeared LYNN OSBORN, known to me, or proved to me under oath or through _____) (description of identity card or other document)), to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that they executed the same for the purposes and consideration therein expressed.

Given under my hand and seal of office on this, the 6th day of October, 2011.

NOTARY PUBLIC IN AND FOR THE STATE OF TEXAS

My Commission Expires:

LAURETTE D BRUDER
My Commission Expires
June 27, 2012

THE STATE OF TEXAS :
COUNTY OF HARRIS :

I, PHYLLIS WALTZ, a Certified Shorthand Reporter, Texas Certified Realtime Reporter, Registered Professional Reporter, and Certified Realtime Reporter in and for the State of Texas, do hereby certify that the facts as stated by me in the caption hereto are true; that the above and foregoing answers of the witness, LYNN OSBORN, to the interrogatories as indicated were made before me by the said witness after being first duly sworn to testify the truth, and same were reduced to typewriting under my direction; that the above and foregoing deposition as set forth in typewriting is a full, true, and correct transcript of the proceedings had at the time of taking of said deposition.

I further certify that I am not, in any capacity, a regular employee of the party in whose behalf this deposition is taken, nor in the regular employ of his attorney; and I certify that I am not interested in the cause, nor of kin or counsel to either of the parties.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, on this, the 21ST day of SEPTEMBER, 2011.

PHYLLIS WALTZ, RPR, CRR
TEXAS CSR NO. 6813
Expiration Date: 12/31/11
LOUISIANA CCR NO. 2011010
Expiration Date: 12/31/11

Worldwide Court Reporters, Inc.
Firm Certification No. 223
3000 Weslayan, Suite 235
Houston, Texas 77027
(713) 572-2000

EXHIBIT 54

Discovery Ex. No. **88**
Cause No.
4:09-cv-01193
Abbott v. BP

1044

bp

Gulf of Mexico
Deepwater Development Program

SPECIFICATION FOR DATA AND INFORMATION HANDOVER FROM PROJECTS INTO OPERATIONS

SPECIFICATION NUMBER: 1400-85-IM-SP-8700

REV	DATE	DOCUMENT STATUS	ORIGINATOR	CHECKED				APPROVED
1	MAR 2003	Holstein handover	AG					
0	APR 2002	Issued to Projects	TPF	HPF	SBL	GS	EROF	JWH
A	DEC 2001	Operations Review	TPF	BDL	BSL	GS	RO	JWH

Document Control Number	Job Number	Asset Unit Designation	Discipline Code	Document Type	Sequence Number	Document Revision
	1400	85	IM	SP	8700	1

4.0 DELIVERY OF INFORMATION

4.1 Data Warehouse

The BP Gulf of Mexico Assets have selected the Intergraph "Notia" Data Warehouse product.

The Datawarehouse holds the master equipment list (MEL), the line list, cable schedule and valve schedule.
The equipment list must be completed for all items on the installation.

The MEL must be fully completed, as it will contain high-level information that is also considered critical for implementing operations/maintenance activities. (See appendix 2)

The line list and cable schedule will ultimately reside in Notia so it will be necessary to ensure that the requisite detail in appendix 2 is provided in a format that will migrate into the Datawarehouse.

4.2 As Built documentation

The Project must ensure that the "As Built" documentation is fully representative of the "As Built" condition of the installed systems. All "As Built" documentation shall be clearly identified as "As Built" and verified as correct by inclusion of authorized approval signatures. No documents with outstanding review shall be submitted as "As Built" until outstanding review is completed.

4.3 Import of Information

Based on the requirements set out in Appendices 1 and 2 the Project shall develop a complete information handover schedule..

Where information is to be supplied in a proprietary format, the Project shall adequately demonstrate how this is to be imported into the Data Warehouse or Document Management System for handover.

The Project shall include the specific requirements for the supply of information in each contract with each main package contractor and each equipment supplier.

EXHIBIT 55

gulf of mex co
GoM SPU
strategic performance unit

bp

Gulf of Mexico SPU

Atlantis Engineering Workflow Process

Rev	Date	Document Status	Custodian	Approver
0	11/24/09	Issued for Use	Ken DeJohn	Asset Manager

Document Control Number	Organization ID	Sector ID	Discipline ID	Document Class	Sequence Number	Document Revision
	1440	10	GE	RP	1007	0

required for installation in the GOM. All changes to the facility must receive the proper ABS, USCG and MMS approvals.

- Marine Authority- The Marine Authority in the GOM SPU is Neil Cramond. All modification and risks associated with the marine system shall be approved by the Marine Authority.

- Weight Management- Weight management is critical to maintain the "Lightship Weight". Lightship Forms are required for all MOCs. The Barge Supervisor should be on review for all technical MOCs. The weight control procedure approved by the MMS shall be followed: Offshore Weight Control Procedure, Document # 1440-70-IG-PR-1404

3.14 Documentation

The GOM SPU uses Documentum as the repository for all documentation and data. Instrumentation data is stored in In-Tools. Smart Plan Foundation (SPF) is used as a tag-based search engine in Documentum, In-Tools and other databases to expedite searches. The guideline for documentation for the GOM SPU is included in 2020-T2-DM-PR-PR-000003. The "Asset Document Controller" is the gatekeeper asset to maintain the integrity of the documentation.

As individual projects are completed, the documentation is handed over to Operations as outlined in 1400-85-IM-SP-8700, which defines the formats, timing and condition of the documentation as it is handed over to Operations. As-builting is required for the indicated drawings prior to handover.

As changes to plant and documentation are made by Operations, the MOC Process will manage the procedures and timing for the update of this documentation.

3.15 Continuous Improvement

Continuous Improvement (CI) is an important tool to improve operating performance through defect identification, measurement and elimination. CI is OMS Element 6.8. The engineering networks are working a number of CI Projects.

3.16 System Handover

Handover of systems to Operations is covered under GP 32-20, Site Inspection, Testing, and Commissioning of Plant. Guidance on Certification (GOC) is the preferred commissioning system within BP and GOC was used on the Atlantis Project.

- For the larger modifications, like waterflood, pigging pump, LDHI, etc, GOC will be used.
- For the smaller modifications, the PSSR in the MOC process will be used for the handover of facilities.

PSSRs will be done for all modifications.

EXHIBIT 56

Deepwater GoM Production

Discovery Ex. No. 90
Cause No.
4:09-cv-01193
Abbott v. BP

bp

document control procedure

BP Document No: ssproj-10-PC-PR-000001

Rev.	Date	Description	Prepared By	Checked By	Approved By	BP Reviewed	BP Approved
1	12-Jun-2006	Issued for Use	Ray Paulk	Patty Sanchez	-	-	Brad Jorgenson
0	25-Jan-2006	Issued for Use	RP	PS	-	-	BJ

Document Control Number	Project Abbreviation	Sector Designation	Discipline Code	Document Class	Sequence Number	Document Revision
	ssproj	10	PC	PR	000001	1

1.0 SCOPE

This procedure provides a uniform and consistent method for the formatting, review, tracking and retention of project documents for the (DWP Project Name).

2.0 GENERAL / DEFINITIONS

2.1 General

This procedure is required for ALL BP DWP Projects.

All formal and informal documents distributed between BP, Contractors, Vendors, and other outside agencies will be controlled as outlined by this procedure.

Contractor documents which do not comply with this procedure will be rejected, and any associated earned value milestone will be considered incomplete.

2.2 Definitions and Nomenclature

Originator	Individual initiating the document
(DWP Proj ID)	(DWP Project Name), See Appendix A
DC	Document Control
DCTM	Documentum
PM	Project Manager
PE	Project Engineer
xmtl	Transmittal
Document	Includes all types of documents and drawings

3.0 DOCUMENT FORMATTING

The formatting of technical documents shall conform in every respect to the format of this document, including title page, document body and appendices. The format of all project documents, presentations, and drawings should adhere to BP's corporate identity and branding guidelines.

Supplemental document components may be added at the discretion of the originator or at the request and approval of the Project Manager, including, but not limited to: revision table, document reference table, etc.

Documents shall be written or submitted in the American (U.S.) English language. Originators are responsible for ensuring that proper quality checks have been completed prior to submitting the document for review, including checks for formatting, grammar and spelling. The technical content, formatting, appearance, and prose content of documents reflects heavily on BP's reputation, and should be respected by all project personnel.

3.1 Title Page

The title page should have the same appearance as the title page of this document. The project logo and BP corporate logo are to appear at the top of the page. The document

5.1.4 Issued for HAZID / HAZOP (IFH)

Document has been issued by Contractor so that a Hazard Identification Study (HAZID) or Hazard and Operability Study (HAZOP) may be performed.

5.1.5 Issued for Approval (IFA)

Document has been issued by Contractor for BP review and approval. BP will invoke its Document Review and Commentary Procedure (Section 6.1), and then return the document to the contractor with any revisions or comments. Contractor will then incorporate BP comments, or opt to formally respond to BP PM, should Contractor be unable to incorporate BP comments.

Should BP not make any comments or revisions to the document (Approved without Comments), BP will notify Contractor that no revisions are necessary. BP will specify to the Contractor as to the appropriate issue type whether documents should be re-issued to BP as Issued for Bid (IFB, Section 5.1.2), Issued for Design (IFD, Section 5.1.5) or Issued for Construction (IFC, Section 5.1.6). Such instructions should be clarified in the Deliverables List

In the event that Contractor is unable to fully incorporate BP comments, the document should be re-issued to BP as Issued for Approval.

If Contractor has made additional comments or modifications to the document while incorporating BP comments, the document should be re-issued to BP as Issued for Approval.

5.1.6 Issued for Design (IFD)

Document has been issued with the incorporation of BP Comments, and has not otherwise been modified by Contractor. BP, at its discretion, will later invoke a secondary process to review and approve the document as Issued for Construction, in accordance with BP's internal Integrity Management Standard.

5.1.7 Issued for Construction (IFC)

Document has been issued with the incorporation of BP comments, and has not otherwise been modified by Contractor. A Contractor may only issue documents as Issued for Construction if given such authority by BP.

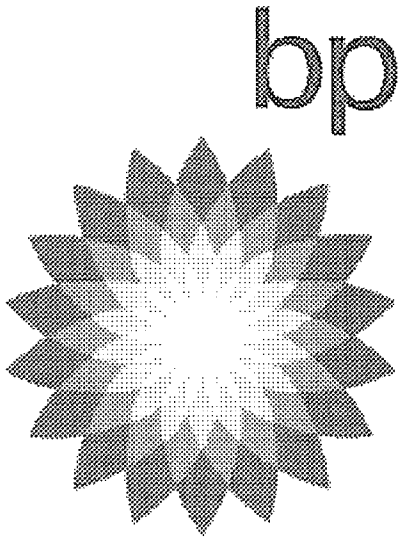
Documents which are Issued for Construction are considered fit for purpose in accordance with BP's internal Integrity Management Standard.

5.1.8 As-Built

Upon completion of installation the latest revision of Issued for Construction is marked up to reflect any as constructed changes and issued '**As Built**'.

5.2 Transmittals

EXHIBIT 57



Gulf of Mexico
Deepwater Development Program

CONTRACTOR DOCUMENT CONTROL PROCEDURE

DOCUMENT NUMBER: 1400-10-AD-PR-0219

0	08/16/01	Approved for Use	SF	MM	FM
REV	DATE	DOCUMENT STATUS	ORIGINATOR	CHECKED	APPROVED

Document Control Number	Job Number	Area/Unit Designation	Discipline Code	Document Type	Sequence Number	Document Revision
	1400	10	AD	PR	0219	0

The Distribution Matrix shall then be forwarded to the Project Office for the addition of the required distribution for personnel located in the Project Office including co-located clients. The Project Office will be responsible for issuing the Contractor's Distribution Matrix to the other project contractors for their input on required distribution. This input will be returned to the Project Office where it will be reviewed and added as appropriate to the Contractor's Distribution Matrix. The Contractor's Distribution Matrix will then be approved by the Project Office for use on the project and formally issued to all project contractors and the client. The distribution information received from all parties will be the guiding tool to ensure proper distribution of the Technical Drawings and Documents for the project. This workflow is described in Figure 3 Distribution Matrices.

Each Contractor shall be responsible for notifying the Project Office of any required changes to the approved Distribution Matrices so that the change may be formally issued and implemented across the project. It is recommended that the approved Distribution Matrices be reviewed at least monthly to ensure accurate and complete distribution of Technical Drawings and Documents.

6.0 DOCUMENT NUMBERING SYSTEM

All Contractors shall adhere to the Document Numbering Guideline Procedure 1400-10-AD-PR-0212. Each Contractor shall be responsible for assigning the technical document numbers to their deliverables.

All Technical Drawings and Documents created for the project shall contain the Job Number, Unit Number, Discipline Identifier, Document Type Identifier, Drawing or Sequence Number and Sheet Number (optional for multi-sheet documents). The status of the documents shall also be clearly identified.

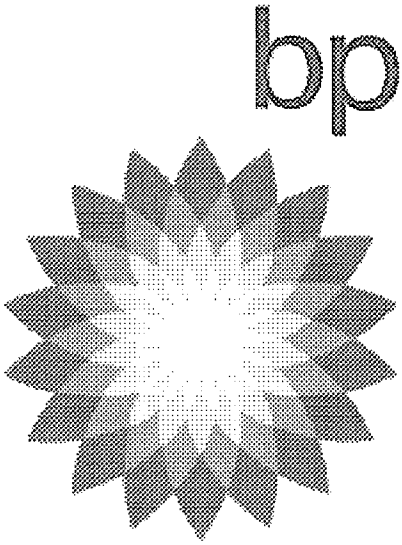
- Preliminary
- Issue for Review and Comment
- Issue for Design
- Issue for Construction
- Issue for Information
- Issue for Approval
- Revised as Noted and As-Built.

7.0 TECHNICAL DOCUMENT TRANSMITTALS

Technical Document Transmittals shall contain the following information to ensure proper tracking and distribution (Reference Example D):

- To Company
- From Company
- Date
- Transmittal Tracking Number
- Document Type
- Purpose
- Special distribution instructions, including proprietary data contents, if any

EXHIBIT 58



Gulf of Mexico
Deepwater Development Program

MEI PROJECT DOCUMENT CONTROL PROCEDURE

DOCUMENT NUMBER: 1400-10-AD-PR-0214

REV	DATE	DOCUMENT STATUS	ORIGINATOR	CHECKED	APPROVED
1	8/7/01	General Revision – Add Flowcharts and Attachments	SF/DAL	GK/MKM	FHM
0	03/13/01	Initial Issue	DK, AM, SP	SW	RM
A	01/08/01	For Review	DK, AM, SP	SW	RM

Document Control Number	Job Number	Area/Unit Designation	Discipline Code	Document Type	Sequence Number	Document Revision
	1400	10	AD	PR	0214	1

- Transmittal Documents are in the PDMC Deliverables List
- Current Revision, Date, and Reason for Revision are the same on Original Documents and PDMC Deliverables List
- Prior Revision, Date, and Transmittal History Information Appear on Original Documents
- Title Changes and Notes are the same on original Documents and PDMC Deliverables List

Once all of the above information has been verified, the MEI Project Document Control Department will then issue a Transmittal (Refer to Section 7.0) from the EDC module of the PDMC System and send it along with the Original Drawings/Documents to reproduction for copying.

Upon receipt of the information being returned from reproduction, the MEI Project Document Control Department will verify that all of the Original Drawings / Documents have been returned and the number of copies requested is correct.

If there are no discrepancies with reproduction, the MEI Project Document Control Department will make distribution per the approved Project Distribution Matrix (Refer to Section 6.0).

If there are discrepancies with reproduction, the issues should be resolved immediately so that distribution can be made in accordance with the approved Project Distribution Matrix.

Engineering Technical Documentation not submitted with a Transmittal Request Form, Original Drawings / Documents and Electronic Files and are not Official Signed / Approved Documents will be returned to the Responsible Discipline Engineer.

When Technical Documents are issued for comment or approval to the client or other Contractors, those documents must be returned back through the MEI Project Document Control Department and will be forwarded to the Responsible Discipline Engineer (Reference Figure 1).

The MEI Project Document Control Department should request an Acknowledgment of Receipt from each receiving company to ensure that all of the Drawings / Documents were received by the client and/or other Contractors. When the client and/or other Contractors return comments to Drawings / Documents, the MEI Project Document Control Department should confirm receipt to the sender of the comments by using an Acknowledgment of Receipt.

The Project Document Control Department will store the Electronic Drawing / Document Files in the Documentum Program and notification of the availability of these files will be made in accordance with the approved Engineering Technical Document Distribution Matrix.

5.0 DOCUMENT NUMBERING SYSTEM

MEI shall adhere to the Document Numbering Procedure 1400-10-AD-PR-0212. The document originator shall be responsible for assigning their Technical Document Numbers.

All technical documents created for the project shall contain the Job Number, Unit Number, Discipline Identifier, Document Type Identifier, Drawings or Sequence Number, and Sheet Number (optional for multi-sheet documents). The status of the documents shall also be clearly identified:

- Preliminary
- Issue for Information
- Issue for Review and Comment

- Issue for Approval
- Issue for Design
- Issue for Construction
- Revised as Noted
- As-Built

6.0 DOCUMENT DISTRIBUTION MATRICES

The MEI Project Document Control Department will be responsible for generating an Engineering Technical Document Distribution Matrix (Attachment C). The Engineering Technical Document Distribution Matrix will establish a guideline of what is to be considered Engineering Technical Documentation (Refer to Section 3.1). The matrix will supply the MEI Project Document Control Department with information needed to ensure the MEI Managers / Leads and Client / Other Contractor Managers / Leads receive the documentation needed to support the project. The Engineering Technical Document Distribution Matrix can be modified to fit project needs with the approval of Project Management or Engineering Management.

The distribution matrix will be maintained in the EDC Module of PDMC System and updated on a monthly basis unless defined otherwise by Project Management or Engineering Management.

7.0 TRANSMITTALS

The MEI Project Document Control Department will issue a Transmittal (Attachment D) once verification of all technical information is correct. Items to be verified include:

- Approval Signatures
- Document Numbers
- Document Titles
- Revision Numbers
- Revision Dates

Document Control will create a Transmittal in the EDC Module of the PDMC System. The Transmittal will be verified against the Technical Documents to ensure all information is correct. The Transmittal and Technical Drawings / Documents will then be sent to reproduction for copying and returned to the MEI Project Document Control Department for distribution in accordance with the approved Engineering Technical Document Distribution Matrix.

When transmitting Isometrics, Data Sheets or Loop Diagrams, the responsible discipline engineer shall request a Transmittal Number from the MEI Project Document Control Department (Reference Figure 2). The MEI Project Document Control Department shall create a blank Transmittal in the EDC Module of PDMC and notify the responsible discipline engineer. The responsible discipline engineer will assign the Transmittal Number to each document that is ready for issue. The responsible discipline engineer will import the document numbers to the same blank Transmittal supplied to them by the MEI Project Document Control Department in PDMC. The responsible discipline engineer will then forward the original signed, approved documents to the MEI Project Document Control Department for issue. The MEI Project Document Control Department will verify the transmittal against original documents before they are issued.

EXHIBIT 59

BP ATLANTIS PROJECT	Project Orientation and Procedures Manual
POPM Procedures	

Gulf of Mexico Deepwater Development

PROJECT ORIENTATION AND PROCEDURES MANUAL

(POPM)

DOCUMENT NUMBER: 1440-21-POPM-PR-0001

REV	DATE	DOCUMENT STATUS	ORIGINATOR	CHECK	APPROVED
1	9/24/04	Issued For Approval	Dirk Smit		X
2	1/27/05	Issued For Approval	Kent Harris		x
3	4/14/05	Issued For Approval	Kent Harris		x

Document Control Number	Job Number	Area/Unit Designation	Discipline Code	Document Type	Sequence Number	Document Revision
	1440	21	POPM	PR	001	3

4.0 GENERAL

The purpose of this procedure is to provide both the Redline and As-Built requirements for the Topsides Fabrication Contractor (J. Ray McDermott-JRM), Mustang Engineering, Inc. (MEI), Commissioning (Com) and their respective subcontractors or subgroups engaged in the Atlantis Deep Water Development Project.
Hand red-line markups are required on certain construction drawings, which are modified in the field. Of the drawings, which are red-lined, critical drawings will be reissued as-built. This procedure will identify the types of drawings required to be red lined and the types of drawings to be issued as-built

The procedure will explain the process of marking up construction drawings to reflect changes that occurred during fabrication, installation and commissioning. It also describes the responsibilities of those groups involved in the process.

4.1 Workflow Overview

4.1.1 The Atlantis Project topside facilities are being fabricated / constructed by JRM, in Morgan City, La., and are scheduled for "sail-away" in May of 2005.

4.1.2 Various engineered production, utilities and life support assemblies and skids will be assembled / fabricated by offsite vendors and shipped to the JRM fabrication site for installation. Redline markups created by vendors and subcontractors and by JRM during fabrication/construction in Morgan City will be transmitted to Commissioning and to MEI for inclusion into their CAD files and electronic Topside Model as soon as fabrication/construction is complete. This will allow updated critical engineering drawings to be made available to BP Atlantis Integration and Operations personnel prior to Integration and Startup of the facilities.

4.1.3 As-Installed(AI) redline markups created at the vendors shop and by the JRM Fabrication Site Team will be transmitted to BP Document Control as described in Paragraph 8 of Appendix 1.

4.1.4 An Atlantis Project Redline / As-built flow chart has been provided. Refer to Exhibit 1.

4.2 Responsibilities

The engineering contractor (MEI) and the prime contractor (JRM) shall be responsible for ensuring that drawings, data sheets or other documentation they and their subcontractors or vendors provide are treated in accordance with this procedure. Specific responsibilities are as follows.

4.2.1 *Mustang Engineering Project Manager (Houston)*: The Mustang Engineering Project Manager is responsible for completion of the as-builts for all MEI generated engineering

documents and drawings as well as all filing and archiving redlines of vendor data and drawings. The Mustang Project Manager is responsible for setting up as-built teams in Morgan City and Corpus Christi to update drawings from redlines as soon as they are handed over from the prime contractors and the commissioning team.

4.2.2 *Vendor and Engineered Skid Subcontractors*: MEI and the fabrication / integration contractors are responsible for seeing that their vendors and subcontractors complete redlines of drawings and documents recording any changes per this procedure during the fabrication and assembly of engineered skids and sub-assemblies.

4.2.3 *MEI Site Engineering As-Built Team*: The Site As-Built team is responsible for processing MEI redline drawings and generated engineering documents. The as-built team is responsible for developing the as-built documents. Working with BP Document Control, the as-built team will ensure the redline drawings documenting changes made by the fabrication contractor and the BP commissioning team are available for the next project phase. Critical drawings requiring PE stamps shall be reviewed and stamped accordingly. All redline originals and the as-built CAD files generated by the contractors shall be turned over to BP Document Control Coordinator at the fabrication and integration sites.

4.2.4 *JRM* is responsible for completion of redlines for all drawings during fabrication. Each project manager is responsible for forwarding copies of redlines to BP Document Control with each System Completion Notice and Turnover Package .

4.2.5 *BP Document Control*: BP Document Control shall be the focal point for receiving As-Installed and As-Install/As-Checked redlines, coordinating and clearing redline markups and insuring that the resulting as-builts are distributed as necessary to support the next phase of the project. BP Document Control shall also be responsible for developing and maintaining a redline / as-built filing, storage and retrieval system.

4.4 As-Built Scope

4.4.1 Documents required to be redlined are listed in Appendix 2.

4.4.2 Critical drawings and documents, which must be as-built and are therefore covered under this procedure, are listed in Appendix 4.

4.4.3 Criteria for Drawings As-Built

DISCIPLINE GROUP	REQUIREMENT
Electrical Control Systems	Changes to single-line drawings, including ratings, connections, overload heaters, controls, elevations, transformers, breakers, feeder identifications, cable sizes switches, panels, heaters, motors, meters,

grounds, lights, relays, and references and notes for all termination drawings will be as-built.

Changes to cause and effect diagrams and schematic diagrams, including interconnection, terminal location, terminal number, relays, contacts, switches, lights, instruments, and references and notes for all interconnection diagrams will be as-built.

Changes to interconnection diagrams, including terminal numbers, terminal board numbers, wire colors, pair numbers, shields, drain wire connections, grounds, communication wires, terminal layouts, termination details and notes and references for all continued interconnection diagrams or termination drawings will be as-built. Heat trace isometric drawings shall be as-built.

Changes to plan drawings, including equipment call outs, lighting circuits, ground grid locations, areas of classification, referenced to standards, panel/conduit connections, major changes in equipment or penetration locations shall be as-built.

Minor dimensional changes and minor changes in conduit field routing will not be as-built.

HVAC	All changes to heaters, fans, MUA, H&V legend, tables, notes, drawing references, logic diagrams for HVAC shall be as-built.
Fire Protection	Changes to locations, arrangements, nozzle size legend, tables, system schematics, notes and drawing references shall be as-built.

Instrument Changes to instrument location and connections, details and notes shall be as-built. Instrument Data sheets will not be "as-built" in the same manner as all other drawings. A "spec table" will be issued which lists the latest revision for each datasheet number. This reference will ensure that the latest versions of the datasheets are being used. There are too many instrument data sheets (many with no changes at all) to open each sheet, bump the revision and print out.

Instrument Panels	Changes to interconnection diagrams, P&IDs, wire numbers, wire colors, tag numbers, isolated grounds, shields, drain wires, fuses, splices, jumpers, commons, and terminal numbers,

	manufacturer, model/part number and references to isometrics shall be as-built.
Mechanical Process	Changes to process and process support piping equipment, to pneumatic, hydraulic process or instrument for connections, pipe sizes, equipment interlock, tag numbers, line numbers, details, and tables, set points on switches, relief valves and valve fail positions shall be as-built. (Pipe Material and Weld trace-ability is required per ABS)
Architectural	Changes in window, wall, ceiling, floor and fire assembly materials and dimensions will be as-built if such items are required for regulatory permits.
Isometrics	ISO drawings will not be as-built except at specification breaks, material changes, changes as may affect P&IDs or as may be required by regulatory authority.
Structural Steel	Structural Steel Drawings will be as-built when in association with cranes, bridges or as required by regulatory authority. Per ABS requirements, all changes to primary steel members and support structures shall be as built.
Vendor Drawings	Changes per the above criteria shall be redlined only.
Vessels	All changes in pressure ratings, codes of reference, relief systems, internal or external modifications/alterations and location of installation shall be as-built as per regulatory requirements.

4.5 Glossary

As-Built: The final revision on the original/master drawing reflecting the true condition of a facility or repair.

As-Installed/As-Checked: Indicated "AI/C", these are drawings revised to reflect changes verified by the commissioning group or changes made by them at the site.

As-Installed: Indicated "AI", these are drawings revised to reflect changes made at the work site by construction/installation.

Site Query: Engineering/Construction Documentation System used to identify problem(s), propose solution, request information, ask for clarification, suggest alternative methods or document design changes.

Commissioning: BP personnel who verify operability of overall installation or system(s), using instrument loop drawings as the source document.

IFE: Issued for Engineering – drawing package.

IFC: Issued for Construction – drawing package.

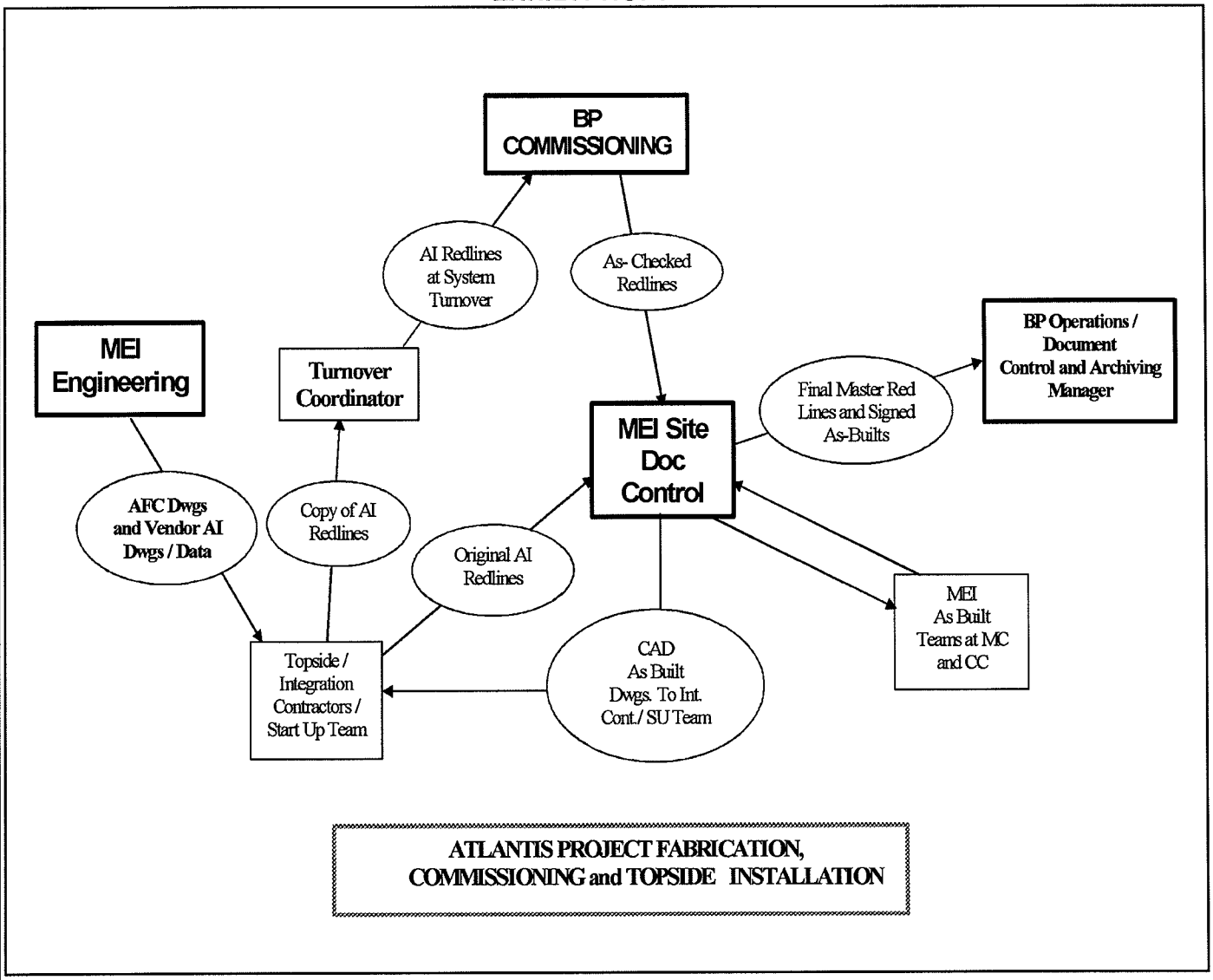
Markup: A construction print marked in red and/or green to reflect changes from design due to construction or commissioning, sometimes referred to as "redline" drawings; this is not the same as the final "as-built" drawing.

Redline: Same as a mark-up.

4.7 Appendix / Attachments

Exhibit 1 – Atlantis Redline / As-Built Flowchart
Appendix 1 Redlining Procedures
Appendix 2 Documents Requiring Redlining
Appendix 3 Redline / As-Built Stamp
Appendix 4 Documents Requiring As Builting

EXHIBIT NO. 1


BP COMMISSIONING
AI Redlines at System Turnover
As- Checked Redlines
MEI Engineering
Turnover Coordinator
BP Operations / Document Control and Archiving Manager
Final Master Red Lines and Signed As-Builts
MEI Site Doc Control
AFC Dwgs and Vendor AI Dwgs / Data
Copy of AI Redlines
Original AI Redlines
MEI As Built Teams at MC and CC
Topside / Integration Contractors / Start Up Team
CAD As Built Dwgs. To Int. Cont./ SU Team
ATLANTIS PROJECT FABRICATION, COMMISSIONING and TOPSIDE INSTALLATION

APPENDIX 1
REDLINING PROCEDURES

Atlantis – Morgan City Fabrication Site

1) Purpose
   a) The purpose of this document is to supplement the redlining requirements outlined in POPM Section 4.0.
   b) This procedure does not address As-Builting requirements for the project.

2) Definitions
   a) As-Installed (AI) – represents the final constructed condition of the modules at the time of system turnover.
   b) As-Installed/As-Checked (AI/C) – represents the final condition of the modules at the completion of Commissioning at Morgan City.
   c) Master Stick File – set of latest revision design documents maintained in a controlled location for the purpose of recording redline information

3) Document Types Requiring Redlining
   a) All changes to the design documents listed in Appendix 2 must be recorded on a Master document set. Changes shall be recorded in accordance with Paragraph 4 of this procedure.

4) Drafting Standards for Redline Master Mark-ups

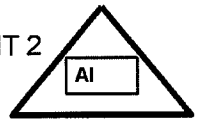
   Master markups are redlined prints from IFC packages, which have been altered as follows, to reflect changes made during fabrication, construction, installation, commissioning and start-up.

   1. For drawings, 11"x17" shall be the minimum size.. It is extremely important that all red-line mark-ups are bold and clear so final paper copies made from these red-lined prints will be legible.

   2. Use the appropriate revision number within a delta inside the revision cloud for revised areas on the print. If the drawing is at revision number 1, the revision within the delta should be 1AI (As-Installed), or 1AI/C (As-Installed/Checked). Do not fill in the delta until after the work has been completed.

3. Mark additions legibly in red ink and cloud them in red with the revision delta contained in the clouded area. All markings should include the Site Query number (if appropriate), the initials of the person performing the redline, the redline date, and revision delta. See Exhibit 2 below:

EXHIBIT 2



Site Query #____ -___
Atlantis 11/06/04

4. Mark deletions legibly in green ink and cloud them in red with the revision delta outside and touching the clouded area.

5. Show "Work Not Performed" or work "Removed from Scope" by clouding that area and noting it as such.

6. Notes to clarify mark-ups on drawings to be written in black.

7. Create and complete a Drawing Turnover Index and transmit to the MEI Atlantis Project Document Control Department.

5) Master Stick Files

a) Master Stick files shall be maintained and controlled to ensure that:
   i) The latest revisions are on file
   ii) All redlines lines are recorded promptly per this procedure
   iii) Redlines are transmitted to BP per this procedure and the System Turnover Procedure

b) As soon as a redline is made on a drawing, that drawing shall be stamped 'Redline Master'.

c) Appendix 2 identifies who is responsible for maintaining the Master Stick files.

6) Redline Impact Log and Database

a) Each Master Stick File location shall have an 'Impact Log' clipboard hanging by the drawings. Each time anyone makes a redline mark on the drawings, an entry shall be made on the Impact Log. Drawing number, sheet number, Site Query number(if applicable), FRR number(if applicable) and date shall be entered onto the log.

b) Drawings which are redlined as a result of changes other than Site Queries or FRRs only need to be entered onto the log one time. Changes resulting from Site Queries or FRRs require individual log entries.
c) Each group responsible for maintaining a Master Stick File set shall keep an Impact Log database. The database will be used to ensure that all redlines required for a system turnover are transmitted to BP Document Control.

7) Stamping Redline Drawings
   a) Drawings shall be stamped as soon as a redline is made on the drawing. Fill in the current AI or AI/C revision number, but do not sign or date the stamp. The stamp will be signed and dated at the time of transmittal to BP Document Control.
   b) Appendix 3 shows the stamp to be used and provides an example describing how the stamp is to be filled in.

8) Transmittal of Redlines
   a) For AI redlines
      i) Redlines shall be kept up to date on the Master Stick Files as the work progresses.
      ii) Redlines shall be ready for review 1 week prior to system turnover.
      iii) At the time of system turnover:
         (1) query the Impact Log to find all redlined drawing for the system
         (2) sign and date the Redline Stamp. Any incomplete work shallremain without the revision delta filled in and transmitted under a subsequent revision when the work is complete
         (3) Make 3 copies of the redlines. Transmit the original and 2 copies to BP Document Control along with the System Completion Notice(SCN). Retain 1 copy for future redlines.
         (4) BP Document Control will transmit one copy to the BP System Turnover Coordinator and will notify the BP As-Built team that the redlines have been received.
         (5) Incomplete redlines will become an open item on the system IWL.

   b) For AI/C redlines
      i) At the completion of commissioning for the system, update the Redline Stamp.
      ii) Make 2 copies of the redlines. Transmit the original and 1 copy to BP Document Control. Retain one copy for future redlines.
      iii) BP Document Control will notify the BP As-Built team that the redlines have been received.

Appendix 2

DOCUMENTS THAT REQUIRE REDLINING

Discipline	Document Type	Master Stick File
Architectural	Significant changes only(new walls, integrity, zoning)	MEI
Electrical(MEI/Vendor)	Single Line Diagrams	MMR
	Schematics and Interconnect dwgs	MMR
	Equipment Location Plans	MMR
	Area Classification Plans	MMR
	Power, control, and grounding plans	MMR
	Lighting Dwgs	MMR
	Cable Tray Isos	MMR
	Fire Protection Dwgs	MMR
	Vendor Schematic and Wiring Diagrams	MMR
	Equipment Data Sheets	MMR
	Panel Schedules	MMR
Instrument(MEI/Vendor)	Instrument Index	MMR
	Logic Diagrams	MMR
	Loop Dwgs	MMR
	Instrument Plans	MMR
	Vendor Schematic and Wiring Diagrams	MMR
	Instrument Data Sheets	MMR
Heat Transfer(MEI/Vendor)	Heat Exchangers	MEI
Mechanical Process	P&ID's	MEI
	Line List	MEI
Mechanical Utilities	Fire Protection Dwgs	MEI
Piping	Isos – ABS Piping Systems – dimensions/metallurgy	MEI
	Isos – other – metallurgy changes only	MEI
	Equipment Layout Dwgs	
Rotating Equipment(MEI/Vendor)	Data Sheets	MEI
Structural	Primary/Secondary Steel Dwgs – ABS	MEI
	Significant Changes(eg: additional platforms)	MEI
Vessels(MEI/Vendor)	Vessel Dwgs	MEI
	Data Sheets	MEI

Appendix 3

Red-Line / AS-BUILT STAMP

Example:

Latest drawing is revision 3. Three (3) Site Queries (SQ's) and two (2) field comments, (one by construction, one by commissioning) impact the drawing. Redline the impacts per section 4 and stamp the drawing with the Redline stamp.

When the document is ready for transmittal to BP Document Control, only SQ 1 & 2 and the construction field comment has been verified as complete. The first line of the stamp should be filled in as shown. When work for the SQ 3 has been verified and the document is ready for transmittal, line two (2) should be filled in as shown. When commissioning of the system is complete, Line 3 should be filled in as shown.

Red-Line / AS-BUILT STAMP EXAMPLE

3 A I/C	Field Comments	1/30/05	LE	LR	DM
3 A I	SQ # 3	12/01/04	ERF	MNO	MHF
3 A I	SQ# 1, SQ# 2, and Field Comments	11/10/04	JDR	MNO	MHF
REV	Revision per SQ, FRR	Date	By	Check	E
Note 1: Field revision / As Built drawing incorporate revision to original drawing at System Completion.					

Appendix 4

DOCUMENTS REQUIRING AS-BUILTING

See Pages 30 to 32.

Distribution Key:

X = As-built required at completion of fabrication at JRM

Y= As-built required at completion of integration at Keyside.

Z = As-built required at completion of Commissioning and Start-up at installed location.

Group	Document Number	Document Type	As-Built Required	Distribution										
			Yes/No	BP	Mustang	ABS	MMS	JRM	DSME	Technip	KBR	GV AC	Kiewit	Mardi Gras
Process/P&ID		PFD's	Yes	xyz	xyz									
		P&ID's	Yes	xyz	xyz	xyz		x					xy	xy
		Module to Module and Module to Hull Tie in lists	Yes	x	x			x	x				xy	xy
		Specialty item lists	Yes	xyz	xyz									
		Safety Analysis Flow Diagrams	Yes	xyz	xyz		xyz							
		Material Selection diagrams	No											
Piping		Line Lists	Yes	xyz	xyz	xyz		x					xy	
		Egress Plan	Yes	xyz	xyz	xyz	xyz						xy	
		General Arrangements	Yes	xyz	xyz	xyz	xyz	x					xy	
		Marine Isometrics (Materials Only)	Yes	xyz	xyz	xyz								
		Planning Studies	No											
		Orthographics	No											
		Isometrics	No											
Piping Stress		Stress Isometrics	No											
		Pipe Support Details	No											
		Spring can setting log	Yes	xyz	xyz			x					xy	
Mechanical		Equipment List	Yes	xyz	xyz	xyz		x					xy	
		Vessel Drawings	No											
		Exchanger Setting plans	No											
Structural		Primary Steel Drawings	Yes	xyz	xyz	xyz	xyz	x	xy				xy	
		Secondary Steel Drawings	No											
		Tertiary Steel Drawings	No											
		Structural Details	No											
		Ladders and Platform drawings	No											
		Plating and grating drawings	No											

Instrumentation		Loop Drawings	Yes	xyz	xyz			x					xy	
		Instrument Index	Yes	xyz	xyz	xyz	xyz	x					xy	
		Tubing Schedule	Yes	xyz	xyz			x					xy	
		Nameplate schedules	No											
		Cable schedules	Yes	xyz	xyz			x					xy	
		Wire lists	Yes	xyz	xyz			x					xy	
		Instrument Location Plans	No											
		Tubing Tray Drawings	No											
		Instrument Wiring Diagrams	Yes	xyz	xyz			x					xy	
		Fire, Gas, and ESD Plans	Yes	xyz	xyz	xyz	xyz	x					xy	
		Instrument Installation Details	No											
		Test Control Panel Vendor Drawings	Yes											
		Junction box fabrication drawings	No											
Automation		Logic Diagrams	Yes	xyz	xyz	xyz	xyz						xy	
		Block Diagrams	Yes	xyz	xyz	xyz							xy	
		I/O Lists	No		x									
		Shutdown Philosophy	Yes	xyz	xyz	xyz	xyz						xy	xyz
		Intools Data Base	Yes	xyz	xyz									
		Cause and effect charts	Yes	xyz	xyz	xyz							xy	xyz
		Set Point Lists	Yes	xyz	xyz								xy	
		Control Narratives	Yes	xyz	xyz	xyz							xy	
		Safe Charts	Yes	xyz	xyz	xyz	xyz						xy	xyz
Electrical		Electrical Load List	Yes	xyz	xyz	xyz	xyz	x					xy	
		Motor Schematics	Yes	xyz	xyz	x		x					xy	
		Single Lines	Yes	xyz	xyz	xyz	xyz	x					xy	
		Wiring Diagrams and Interconnects	Yes	xyz	xyz			x					xy	
		Paging and Alarm Plans & Block Diagrams	Yes	xyz	xyz	xyz	xyz	x					xy	
		Paging and Alarm Details	No					x					xy	
		Area Classification Drawings	Yes	xyz	xyz	xyz	xyz	x					xy	
		Panel schedules	Yes	xyz	xyz			x					xy	
		Cable schedules	Yes	xyz	xyz			x					xy	
		Lighting Plans	No											
		Power Plans	No											
		Grounding Details	No											
		Cable Tray Plans & Iso's.	No											
		Block Diagrams	No											

		Installation Details	No											
HSE / Fire Protection		Safety Equipment Location Plans	Yes	xyz	xyz	xyz	xyz						y	
		Firewater System Isometrics	Yes	xyz	xyz	xyz		x					xy	
		Firewater System Plans	Yes	xyz	xyz	xyz	xyz	x					xy	
		Egress & Lifesaving Plans	Yes	xyz	xyz	xyz	xyz	x					xy	

EXHIBIT 60

ORIGINAL

Topsides Design Engineering and Project Services Contract

between

BP Exploration & Oil Inc.
Amoco Production Company

and

Mustang Engineering, Inc.

Gulf of Mexico Deepwater Developments

Contract No. BPA–00–01435

2.3.3.23 Other deliverables for the Preliminary phase include but are not limited to:

- HVAC studies and preliminary layouts.
- Electrical equipment data sheets.
- Communications block diagrams.
- Crane sizing, layouts and details.
- Utility Flow Diagrams and Material Balances.
- Equipment Arrangements.
- SAFE Charts.
- Structural weight report.
- Interconnect material estimates (bulks) by discipline.
- Flare radiation study and preliminary flare boom sizing.

2.3.3.24 Update weight and center of gravity reports.

2.3.3.25 Contractor participation in HAZOP reviews and resolutions, safety assessments, operability reviews, peer reviews, documentation and other risk management activities.

2.3.3.26 Revised cost and schedule estimate.

2.3.3.27 Assist Company in the preparation of fabrication RFQs.

2.3.3.28 To document the results of preliminary engineering written descriptions and detailed design execution plans will be prepared for all topsides systems.

2.3.4 Detailed Engineering (Execute Stage)

Detailed engineering shall include but not be limited to the following:

2.3.4.1 As-built drawings and documentation.

2.3.4.2 Alarm and Shutdown Schematics and Wiring Diagrams.

2.3.4.3 API 14C Flowsheets for MMS review.

2.3.4.4 Boat moorings.

2.3.4.5 Complete Calculation Books.

2.3.4.6 Conduit and Cable tray plans and details.

2.3.4.7 Conduit, cable and Wire schedules.

2.3.4.8 Control Logic diagrams and/or schematics for all control systems.

2.3.4.9 Control panel layouts, schematics, and wiring diagrams.

2.3.4.10 Cooling/Utility water load list.

The Document Schedule shall list all drawings and documents, their numbers, titles, codes indicating their status, schedule and actual issue dates.

11.4 Document Review

Company has the right to review all engineering, procurement, construction, mechanical completion, commissioning, testing and documentation performed by Contractor or its subcontractors. Contractor shall submit all calculations, drawings, specifications, material requisitions and other engineering documents that Contractor has produced, for Company to review as they become reasonably completed to show all essential information.

Company's review is intended to ensure that Contractor complies with the specifications included with the Contract documents, ensure performance objectives, and design philosophies are met; ensure conformance to Company operating, maintenance and safety practices; ensure conformance to regulatory requirements and to ensure a maintenance of Company's working relationship with suppliers, subcontractors, regulatory authorities, and public at large. This process shall not supersede any obligation, guarantee, or warranty that Contractor may have under this Contract.

11.5 Company Review Procedure

Contractor shall submit three (3) full size and one (1) reduced size drawing to Company for review. These documents shall be accompanied by a transmittal letter. These drawings shall be submitted at Contractor's home office location.

Company shall undertake its best efforts to review the documents and return them to Contractor within ten (10) working days. Company will annotate the drawings as appropriate and return the documents to Contractor. Contractor shall incorporate the comments if applicable into the project and resubmit as required.

11.6 Documents

At a minimum, Contractor shall provide to Company the following documentation upon Completion of the Work:

11.6.1 Three sets of AutoCad drawings on CD ROM and/or 3.5" diskettes.

11.6.2 Two sets of Microsoft Word documents on CD ROM and/or 3.5" diskettes.

11.6.3 One set of reproducible rolled Mylar tracings and two sets of folded blue line prints stamped "As-Built" including:

- Civil Drawings
- Process Drawings
- Piping Drawings
- Structural Drawings
- Electrical and Instrument Diagrams
- Lay out Plans
- Equipment lists
- Safety plans

EXHIBIT 61

DUPLICATE ORIGINAL

Well System Integration and Design Engineering Services Contract

between

BP Exploration & Oil Inc.
Amoco Production Company

and

Aker Engineering, Inc.

for

Gulf of Mexico
Deepwater Developments

Contract No. BPA–00–01772

File: S:\PMMS\1999 - Project Contracting\Contracts\Lapet\2000 Jobs\GOM Subsea Strategy\RFQ Folder BPA-00-01772\Contract\Aker Integration Engineering Services Contract BPA–00–01772final Doc – December 15, 2000

11.5 Company Review Procedure

Contractor shall submit three (3) full size and one (1) reduced size drawing to Company for review. These documents shall be accompanied by a transmittal letter. These drawings shall be submitted at Contractor's home office location.

Company shall undertake its best efforts to review the documents and return them to Contractor within ten (10) working days. Company will annotate the drawings as appropriate and return the documents to Contractor. Contractor shall incorporate the comments if applicable into the project and resubmit as required.

11.6 Documents

At a minimum, Contractor shall provide to Company the following documentation upon Completion of the Work:

11.6.1 Three sets of AutoCad drawings on CD ROM.

11.6.2 Two sets of Microsoft Word documents on CD ROM.

11.6.3 One set of reproducible rolled Mylar tracings and two sets of folded blue line prints stamped "As-Built" including:

- Field Layout Drawings
- Subsea Architecture Drawings for Each Drill Center
- System P&IDs and PFD
- Flowline and Umbilical Alignment Sheets
- Civil Drawings
- Process Drawings
- Piping Drawings
- Structural Drawings
- Electrical and Instrument Diagrams
- Lay out Plans
- Equipment lists
- Safety plans
- Project procedure manual
- Job Data Books (4 sets)
- Controlled copy of all job specifications (1 set)

11.9 Document Index and Distribution Matrix

Contractor shall develop a document distribution matrix within fifteen (15) days after the effective date of the Contract, that identifies required distribution for both Company and Contractor personnel based on document type, location and discipline. Company will review Contractor's distribution matrix. Contractor shall keep this document updated as needed.

EXHIBIT 62

IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF TEXAS
HOUSTON DIVISION

UNITED STATES OF AMERICA EX REL. KENNETH W. ABBOT; KENNETH W. ABBOT, INDIVIDUALLY; AND FOOD & WATER WATCH, INC.	:	
Plaintiffs,	:	
VS.	:	CIVIL ACTION NO. 4:09-CV-01193
BP EXPLORATION & PRODUCTION, INC., ET AL.	:	

****

ORAL AND VIDEOTAPED DEPOSITION OF
RYAN MALONE
SEPTEMBER 13, 2011

****

ORAL AND VIDEOTAPED DEPOSITION of RYAN MALONE, produced as a witness at the instance of the Plaintiffs, and duly sworn, was taken in the above-styled and numbered cause on September 13, 2011, from 9:08 a.m. to 4:40 p.m., before PHYLLIS WALTZ, CSR, TCRR, RPR, CRR, in and for the State of Texas, recorded by machine shorthand, at the offices of Fulbright & Jaworski, L.L.P., 1301 McKinney, Suite 5100, Houston, Texas, pursuant to the Federal Rules of Civil Procedure and the provisions stated on the record or attached hereto; that the deposition shall be read and signed before any Notary Public.

construction, revised as noted with a description as as-built. We wanted to avoid the potential confusion involved in having rev zero and subsequent drawings still labeled as as-built. And the ability of fabrication, operations, installation, and commissioning personnel to inadvertently pull a previous revision still labeled as-built, but not the most recent.

So, again, I can't recall with certainty on Mardi Gras what we ended up doing to designate, but I do know with Atlantis and Technip we made a very conscious effort to not include as-built and instead to defer to the latest revision to avoid confusion.

Q. Who made the decision on Atlantis to consciously not do as-builts?

MR. NESSER: Objection to form.

A. So I -- during the time period that I was on Atlantis I'm not aware of who may have made the decision to not designate a descriptor on a drawing labeled "as-built." While I was there I know there was a very conscious decision to ensure the latest revisions were always available and clearly identified.

Q. (BY MR. PERRY) Well, when and how did you learn that there was a conscious effort being made to not describe anything as as-built at Atlantis?

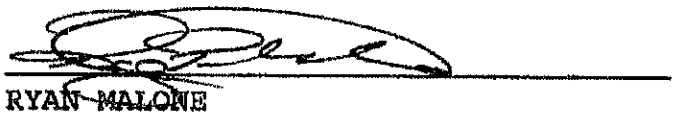
MR. NESSER: Objection; form.

A. So, again, I -- I was never in a position to understand if a decision was made or why it was made to not use that particular designation. I do know that from the moment I arrived at Technip the discussion and
04:33 the reasoning behind why we always were very prescriptive about our processes in ensuring the description and that the latest revision was always clearly flagged as the most recent depiction of what was currently installed, fabricated, or the latest thoughts
04:33 behind a P&ID were to avoid confusion. So I think that was clearly articulated and, again, probably even in our subsea project execution plan.

Q. (BY MR. PERRY) Well, you were in charge to handle and getting ready for handover -- and I really do
04:34 not understand your last answer, so let me try to rephrase the question. During this period of time that you were in charge of getting ready for handover, were you trying to get as-builts ready to hand -- I'm talk -- now, I'm talking about as-builts with the word on the
04:34 document, okay. That's the way I'm using it.

Were you trying to get as-builts ready to be handed over, if possible, with the equipment or as soon as possible thereafter, or were you trying to avoid doing that? Or what were you doing? What was your
04:35 objective as you understood it back at that time?

I, RYAN MALONE, have read the foregoing deposition and hereby affix my signature that same is true and correct, except as noted above.



RYAN MALONE

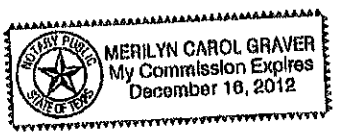
STATE OF T E X A S)
COUNTY OF HARRIS)

Before me, MERILYN CAROL GRAVER, on this day personally appeared RYAN MALONE, known to me, or proved to me under oath or through personally) (description of identity card or other document)), to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that they executed the same for the purposes and consideration therein expressed.

Given under my hand and seal of office on this, the 29 day of September, 2011.

NOTARY PUBLIC IN AND FOR THE
STATE OF TEXAS

My Commission Expires: 12-16-12



THE STATE OF TEXAS :
COUNTY OF HARRIS :

I, PHYLLIS WALTZ, a Certified Shorthand Reporter, Texas Certified Realtime Reporter, Registered Professional Reporter, and Certified Realtime Reporter in and for the State of Texas, do hereby certify that the facts as stated by me in the caption hereto are true; that the above and foregoing answers of the witness, RYAN MALONE, to the interrogatories as indicated were made before me by the said witness after being first duly sworn to testify the truth, and same were reduced to typewriting under my direction; that the above and foregoing deposition as set forth in typewriting is a full, true, and correct transcript of the proceedings had at the time of taking of said deposition.

I further certify that I am not, in any capacity, a regular employee of the party in whose behalf this deposition is taken, nor in the regular employ of his attorney; and I certify that I am not interested in the cause, nor of kin or counsel to either of the parties.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, on this, the 15TH day of SEPTEMBER, 2011.

PHYLLIS WALTZ, RPR, CRR
TEXAS CSR NO. 6813
Expiration Date: 12/31/11
LOUISIANA CCR NO. 2011010
Expiration Date: 12/31/11

Worldwide Court Reporters, Inc.
Firm Certification No. 223
3000 Weslayan, Suite 235
Houston, Texas 77027
(713) 572-2000

EXHIBIT 63

BPEP_ABB_03534372

CONFIDENTIAL

LORD BROWNE

RECEIVED
DEC 11 2002
G. S. SILLS

John,

ATLANTIS FM

We have discussed this project at length. I now attach an FM that reflects our discussion on Saturday in terms of pace and spending.

May I have your agreement and signature to move forward on the project.

DICK OLIVER

18th November, 2002

Discovery Ex. No. 153
Cause No.
4:09-cv-01193
Abbott v. BP

BPEP_ABB_03534373
DWD-FM-2002-03

CONFIDENTIAL
CONFIDENTIAL

FINANCE MEMORANDUM
GULF OF MEXICO DEEPWATER DEVELOPMENT BUSINESS UNIT
U.S. CAPITAL EXPENDITURE
Atlantis Oil Field Development

Redacted

Capital Investment	BP Share (56%) $mm (MOD)
May CAC Approved Interim Funding	190
Remaining Unspent Funds	114
Sanction Requested including above Unspent Funds	1,125
Estimate Definition:	
Reference Value for Approval	1271

Approval is sought for the release of $1,125 mm to progress the Atlantis project through field development of the Proved Reserves portion of the field. In May 2002, CAC approved an interim funding of $190 mm (BP net), of which only $76 mm has been spent to date, to progress Atlantis through the Define phase. The balance of $114 mm is included in the requested sanction referenced above. Atlantis should deliver sanction forward metrics of $293 mm NPV_9 and a 17% internal rate of return. First oil is targeted for July 2006 through BP's Mardi Gras Transportation System's Caesar and Cleopatra pipelines.

Project Description

The Atlantis oil field, discovered in May 1998, is located in 4,500 to 6,900 feet of water in Green Canyon (GC) blocks 698-700 and 742-744, in the Gulf of Mexico (GoM) and is jointly owned by BP (the operator) with 56% interest and BHP-Billiton (BHP-B) with 44%. The field is a large, faulted compressional anticline, situated ~60% beneath salt along the edge of the 2,500-foot relief Sigsbee escarpment. The estimated full-field risked gross recoverable reserves are 475-640-800 mmboe (P90-P50-P10) (including NGLs and excluding fuel gas), consisting of approximately 90% oil with an expected blended API gravity of 29° and 1.9% sulfur.

The base development associated with the current sanction is focused on the better-imaged southern flank portion of the field. Downside exposure for a southern flank development has been reduced by appraisal drilling in 2002, and the reserve range for this extra-salt portion of the 475-560-650 mmboe is correspondingly tighter than that noted above for the full field. The present sanction case targets 560 mmboe, mid-distribution (P50) for the southern flank but also equivalent to a full-field P70 risked reserve. The Development drilling program to access the 560 mmboe reserves includes 20 wells (16 producers, 4 water injectors) and 13 future reservoir management intervention activities.

In 2H2002, three appraisal wells are being drilled at Atlantis with the Transocean Horizon rig. The first well, designed to appraise the large southwest segment of the structure, was successfully completed in August and established a segment P50 reserve ~10% larger than pre-well estimates. The second well was successfully suspended in October and will serve as a future producer from the central segment of the southern flank. The third well, currently being drilled, will appraise the poorly imaged northern flank, setting the stage, if successful, for a future development phase on Atlantis.

The pre-drill well program is scheduled to commence in 2004 with four wells to be drilled and five to be completed prior to field first-oil in July 2006. Ongoing development drilling during the estimated ~6-year plateau production period will allow for further appraisal of poorly imaged and/or complex portions (e.g., northern flank, crestal graben) of the field. The current sanction case reserves exclude all potential from crestal and northern flank segments of the field. Accessing potential from these two segments will require future incremental investment not included in the sanction request.

The field will be developed via a subsea production system with a moored semi-submersible Production Quarters (PQ) platform, with processing and export facilities for 150 mbopd, 180 mmscfd of gas handling (for 120 mmscfd gas export and 60 mmscfd gas lift), 75 mbwpd water injection and 75 mbwpd produced water treatment, and a separate, dedicated semi-submersible drilling unit (MODU) to drill all development wells, as described in the CAC FM dated April 15. The system will be expandable for future tie-back options and to mitigate against variable or rising GOR, or poor aquifer drive.

Project Schedule & Milestones

The July 2006 first oil target is attributed with a 50% probability of occurrence. Topsides fabrication is expected to commence in October 2003 with module delivery in July 2005 to coincide with Hull delivery from the shipyard. Following heavy lift and integration with the semi-submersible at a quay-side location, the PQ will be installed in Q1 2006 along with the subsea system installation and commissioning. The project capital phasing calls for an extended period of engineering during 2003 prior to commencing fabrication and this period will be utilised by the team to optimise the construction schedule and reduce the

Economic Justification

Redacted

Financial Summary ($16 Brent, $2.40/mmbtu MOD from 12/2002 forward)

$mMOD net	2002	2003	2004	2005	2006	200	Project Total
Capital Phasing	14.3	169.4	368.2	222.3	109.8	55.3	1124.8
Capitalized Interest	0.0	9.7	27.1	41.4	33.2	0	111.4
Net Income RCOP	0	0	0	0	26	93	863
Post Tax Cash $mm (MOD)	0	-146	-296	-179	3	190	1189
Net Production, mmboe/yr*	0	0	0	0	9.6	25.6	274.2
Net Production, mboe/d*	0	0	0	0	26	70	

** Entitlement barrels, including NGLs, net of fuel gas usage*

Benchmarking

Atlantis' development costs benchmark well within deepwater averages for similar fields. Drilling costs are forecast from the current days/10,000' to an average performance of days/10,000' for the pre-drills and an average of days/10,000' for the full development.

* surface piercing structure, not including Marlin (the average is 3.48 when subsea tie-backs are included)

Risk & Uncertainty

1) The range in Atlantis' initial oil-in-place estimates is wide and highlights the potential upside that may exist, especially in field segments which have been excluded from the base development described in the current sanction case because they are poorly imaged and/or unpenetrated. Uncertainties related to poor imaging of the field, the degree of structural compartmentalization, amount of reservoir energy, and connectivity to aquifer support limit the accuracy of dynamic predictions regarding field-wide recovery efficiencies (reserves) and well sustainability (reserves per well). Individual well productivities will vary due to uncertainties in the above, in frac-pack (single & stacked) completion skins, and in water breakthrough timings and magnitudes.

Mitigations: *To mitigate field-wide uncertainty, the sanction case reserves target only the better-imaged, lower risk southern portion of*

BPEP_ABB_03534375 CONFIDENTIAL

flexibility to adjust well count as appropriate. The new seismic survey will improve subsurface illumination to facilitate future reserves access in subsalt areas. Day-one riser-base gas lift (60 mmscfd) and limited water injection (75 mbwd) capabilities will help mitigate reservoir energy and aquifer strength concerns. Facility topsides will have flexibility to support the wide range of field performance uncertainties.

2) In addition to the normal schedule risks associated with engineering and construction of large complex facilities, Atlantis is the fourth development project in a series and schedule delivery is dependent on successful contractor performance management between the projects. A further schedule risk is the potential impact if partner funding is not received promptly following BP sanction.

Mitigations: *The Atlantis team is actively working with the more advanced Development projects to evaluate and improve contractor performance while still in the planning stage in order to increase the confidence of delivery around the first oil date. BP and BHPB management are engaged at multiple levels to provide the assurances which will facilitate prompt BHPB approval of the project, and BP has achieved the early release of BHPB funding for certain critical long lead items.*

Assurance

Appropriate discipline reviews have been held with Upstream Heads of Discipline and Technical Vice Presidents during September 2002, following on from the full project TVP review on 4th March 2002. Final BRISK and FEL assessments were completed in September 2002. Alignment with the partner BHP-B has been achieved for concept selection, throughput sizing and flexibility requirements. Assurance discussions with PPM, Tax, Audit, Finance, Treasury and Legal have also been successfully completed.

Authority Sought

Support for the release of funds totalling $1,125 mm (with an estimate tolerance of Redacted is sought to progress the Atlantis project through full field development.

Proposed by: _____ Date: 12/2/02
D. J. Blackwood, Business Unit Leader, GoM DW Projects

Recommended: _____ Date: 18/11/02
Mark E. Golden, Group Vice-President, Upstream

Supported by: _____ Date: 18/11/02
Richard L. Olver, Chief Executive, Upstream

Supported by: _____ Date: 21/11/02
Byron Grote, Group Chief Financial Officer

Endorsed by: _____ Date: 18/11/02
E. John P. Browne, Group Chief Executive

Approved by: _____ Date: 6 DEC 2002
Kenny Lang, Officer, BP America, Inc

BPEP_ABB_03534376

CONFIDENTIAL

Atlantis January LTP Case

Project Value	$18, $3.00 Jan LTP	$16, $2.40 Sanction
NPV9 (18,3)		
IRR (18,3)		
Capital Eff		
FB NI		
FB DD&A		

Redacted

Reserves		Reserves in MBOE
Oil	MSTB	MBOE
Gas (sales)	MMSCF	MBOE
NGLs	MSTB	MBOE
TOTAL		MBOE

Project Costs	
D&C	728
Facilities	1268
Total	1996
Cap OH (net Copas)	8
Cap Int	111
Total Incl OH/Copas	2003
Grand Total Incl Int	2115
Sunk Cost (F+A)	396 ??

Metrics
Facil/BBL
D&C/BBL
WI Dev Cost/BBL
Incl Cap OH

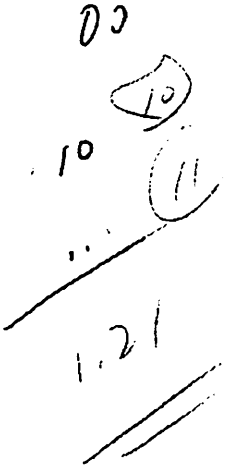
NRI Facil/BBL
NRI D&C/BBL
NRI Dev Cost/BBL
Incl Cap OH

WI Sunk Cost (F+A)
NRI Sunk (F+A)

TOTAL WI F+A+D
TOTAL NRI F+A+D

WI Opex (w Copas)
NRI Opex (w Copas)

Plateau WI Opex
Plateau NRI Opex



BPEP_ABB_0353437 CONFIDENTIAL

ATLANTIS POST SANCTION SUMMARY 12/05/02

CAPEX

SANCTIONED CAPEX	BP NET $mm (MOD)
May CAC Approved Interim Funding	190
Remaining Unspent Funds	114
Sanction Requested including above Unspent Funds	1,125
Estimate Definition: (	
Reference Value for Approval	1,271

PACE

Achieving P50 First Oil: July 2006 and allowing a reduction in 2003 capital by $100 mm to $179 mm. Production function assumes July 31, 2006 start-up.

Capital phasing calls for an extended period of engineering during 2003 prior to commencing fabrication. This period will be utilised by the team to optimise construction schedule and reduce risks to delivery of first oil date.

Pre-drills are deferred into 2004, and 2003 facility commitments and fabrication activities are deferred about five months.

CAPEX PHASING	2002	2003	2004	2005	2006	2007	Project Total
Capital Phasing	14.3	169.4	368.2	222.3	109.8	55.3	1124.8
Capitalized Interest	0.0	9.7	27.1	41.4	33.2	0	111.4

SANCTIONED RESERVES (Southern Flank)

Redacted

PRODUCTION

- Estimated plateau production period:~6-year

NET PRODUCTION *Entitlement barrels, including NGLs, net of fuel gas usage	2002	2003	2004	2005	2006	2007	Project Total
Net Production, mmboe/yr*	0	0	0	0	9.6	25.6	274.2
Net Production, mboe/d*	0	0	0	0	26	70	

PRE-DRILLING

Scheduled to start in 2004 with four wells to be drilled and five to be completed prior to field first-oil in July 2006.

DEVELOPMENT DRILLING

- 16 producers, 4 water injectors = 20 wells + 13 future reservoir management intervention activities.
- Ongoing development drilling during the estimated ~6-year plateau production period will allow for further appraisal of poorly imaged and/or complex portions (e.g., northern flank, crestal graben) of the field.

FACILITIES

Name plate: 150 mbopd, 180 mmscfd of gas handling (for 120 mmscfd gas export and 60 mmscfd gas lift), 75 mbwpd water injection and 75 mbwpd produced water treatment.

System: Subsea production system with a moored semi-submersible Production Quarters (PQ) platform and a separate, dedicated semi-submersible drilling unit (MODU) to drill all development wells.

Flexibility: Flexibility for future tie-back options and to mitigate against variable or rising GOR, or poor aquifer drive. Options to enhance project value by de-bottlenecking the facilities to provide increased throughput in the early years of production will be examined.

Export: BP's Mardi Gras Transportation System's Caesar and Cleopatra pipelines.

BPEP_ABB_03534378 CONFIDENTIAL

SCHEDULE & MILESTONES

First Oil Target: July 2006 - attributed with a 50% probability of occurrence.

Topsides Fab: Expected to commence in October 2003 with module delivery in July 2005 to coincide with Hull delivery from the shipyard.

Installation: Following heavy lift and integration with the semi-submersible at a quay-side location, the PQ will be installed in Q1 2006 along with the subsea system installation and commissioning.

OPEX BY YEAR

Opex for Sanction Case

Year	Fixed $mm	Variable $mm	Intervention $mm	Indirect Lifting $mm	Total Gross $mm
2002	$0	$0	$0	$0	$0
2003	$0	$0	$0	$0	$0
2004	$0	$0	$0	$0	$0
2005	$0	$0	$0	$0	$0
2006	$15	$3	$7	$0	$25
2007	$15	$8	$6	$0	$29
2008	$15	$9	$14	$0	$37
2009	$15	$12	$12	$0	$39
2010	$15	$11	$9	$0	$35
2011	$15	$12	$24	$0	$51
2012	$15	$13	$22	$0	$50
2013	$15	$18	$34	$0	$67
2014	$15	$10	$31	$0	$56
2015	$14	$13	$22	$0	$49
2016	$14	$13	$37	$0	$64
2017	$13	$5	$16	$0	$34
2018	$13	$11	$13	$0	$37
2019	$12	$11	$10	$0	$34
2020	$12	$9	$0	$0	$21
2021	$12	$3	$0	$0	$15
2022	$0	$0	$0	$0	$0
Total	$225	$161	$258	$0	$644

ATLANTIS EFFICIENCY:

- 1st 12 month production (NRI basis)
- Plateau 12 month Production (NRI Basis)
- 1st 12 month Operating efficiency
- Plateau 12 month Operating efficiency
- Startup effieciency

Redacted

BUSINESS DRIVERS:

- 2003
- 2003 and Beyond 2003

BPEP_ABB_03534379

CONFIDENTIAL

AFE PLAN (POST SANCTION):

- 1st and 2nd Long Lead — $20mm each — approved
- 1st Gen sets — $3mm — approved
- 2nd Gen sets — $23mm — pending POD
- 6th and 7th IPT AFE — ca $20mm each — planned
- Final design AFE — ca $30mm — planned and approval with POD
- FAB AFE (phase 1) — ca $1050mm — planned
- Seismic AFE — ca $10mm — planned for OBS survey
- Dev Drilling — separate by well

DEC GFO Details:

Expense ($mm)		Q1	Q2	Q3	Q4	YE
Capex (net)	2002	$12.15	$14.61	$47.38	$48.88	$123.01
	2003	26.4	35.8	52.7	64.1	179.0
Cash (net)	2002	3.1	(16.5)	(14.1)	(6.3)	(33.8)
	2003	(60.5)	(21.7)	(15.0)	(56.8)	(154.0)
PxO (Gross)	2002					23.2
	2003					26.9
Headcount	2002				89.5	89.5
FTE's	2003	87.5	88.5	92.0	94.5	90.0

AFE Historical Spend:

- Gross Dollars

AFE Name	Inception-to-Date Thru November	Budget	% Remaining
A,GC 743,Atlantis Facilities	$41,616,305.00	$54,305,000.00	23%
A,GC 743 Atlantis-Drilling/ Facilities	6,466,922.00	7,925,000.00	18%
GC 743,Atlantis IPT Bridge	20,756,572.00	18,997,300.00	-9%
GC 743,Atlantis Long Lead Equipment	0.00	23,328,000.00	100%
GC 743,Atlantis Generator Sets	15,877,241.00	7,981,600.00	-99%
GC 743,Atlantis Final Design	53,557,557.00	Pending	
GC 743,Atlantis 1st Long Lead Equipment	3,266,172.00	20,950,000.00	84%
GC 743,Atlantis 2nd Long Lead Equipment	2,358,716.00	19,610,000.00	88%
A,Atlantis HR 3D&Seabed Survey;AFE00-37	4,306,465.00	4,222,000.00	-2%
A,Atlantis 3D Seis Reproc&Depth Imaging	2,433,570.00	2,408,000.00	-1%
O - GC743, OCSG15607, ATLANTIS # 1, BHP	32,400,249.00	38,077,000.00	15%
Atlantis, OCS-G 15607/ GC 743/ # 2 Drl&Eval	39,742,152.00	40,000,000.00	1%
Atlantis, OCS-G 15607/ GC 743/ # 2 ST	19,474,971.00	19,700,000.00	1%
Atlantis, OCS-G 15607/ GC 743/ # 3	24,079,251.00	25,500,000.00	6%
Atlantis, OCS-G 15607/ GC 743/ # 4	7,991,930.00	27,800,000.00	71%
Atlantis, OCS-G 15607/ GC 743/ # 5	20,019,906.00	44,600,000.00	55%
Atlantis, OCS-G 15607/ GC 743/ # 6	29,386,595.00	29,360,000.00	0%
Atlantis Total Spend since Inception	$323,734,574.00	$384,763,900.00	351%

EXHIBIT 64

DWD - FM - 2002-03-51 Cover letter

Confidential

Dr A B Hayward
Members of the RCM

Gulf of Mexico
Atlantis South Supplementary FM and Atlantis Phase 2 Strategy

This cover note provides context for the Atlantis South supplementary FM and provides an overview of the forward strategy for Atlantis.

History
Atlantis South was sanctioned in 2002 at $1.125 bn capital (all numbers are BP net share) to deliver 278 mmboe resources with first oil in July 2006. In March 2005, an Information Note presented a status and cost update for approval to spend to the upper reference limit of $1.271 bn. Over the following year, a combination of unforeseen technical issues and market inflation led to a delay to first oil and significantly increased project cost.

In July 2006, MBAC was provided with an update of the project cost and first oil ($2.18bn and end 2006) and the intent to provide a Supplemental FM in 2007 (at first oil). Following successful rebuilding of the subsea infrastructure, commissioning of the PQ, and remediation of a hydrate plug in the gas export line, first oil from Atlantis South was accomplished in October 2007 followed by first gas in December 2007.

Early dynamic production data from the wells showed that while rates were in the lower end of the predicted range, the expected reserves are well connected and, with the provision of pressure support from planned water injection, will be recoverable. In order to provide additional time to better understand reservoir performance and eliminate the major cost uncertainty around the re-negotiation for the Development Driller 2, the Supplementary FM was deferred to the July 2008 RCM.

In addition to the South, the first phase of Atlantis North, a single well tie back to dynamically appraise the north part of the field, was sanctioned at RCM in August 2007. The costs of this project are currently estimated at $209m vs. a performance target of and a NTE of The project is on track for first oil in 3Q 2009. Redacted

Status
Atlantis has ramped up production with 7 wells currently on line and has averaged 54mboed in 1H2008 with a peak production achieved of 67mboed (137 mboed gross). Performance from the PQ has been outstanding, averaging ops efficiency vs. 2008 plan of , which benchmarks as world class for a major project start-up.

Productivity of the wells is lower than expected with negligible aquifer support and an underlying monthly decline rate between 10% and 15%. The current forecast is that new well delivery with a single rig will barely offset this decline and we will be unable to fill the plant. Short-term interventions include:

- moving forward with the execution of water injection, with first water in 3Q 2009
- accelerating the implementation of gas lift by more than one year due in July 2008
- focusing on improved drilling performance allowing for new well delivery

Discovery EX No. 345
Cause No.
4:09-cv-01193
Abbott v. BP

Confidence in the understanding of the full field reservoir is improving via the dynamic data and from a significantly improved seismic image of the reservoir. This has led to the development of a revised forward strategy for Atlantis for the accelerated development of the north and the appraisal and production from the East area of the field enabled by a second rig. This is described below under Atlantis Phase 2 strategy.

Supplementary FM
The Supplementary FM provides an update on costs and profile for the South Development with no changes to resources. However, following manifold failures at Thunder Horse, the decision was made to retrieve and replace the Atlantis manifolds. This additional scope is included as part of this request. The combined impact of technical issues, delays and market inflation have led to a significant increase in project costs from $1.27 bn sanction to $4.19 bn NTE. However, the increase in price has been more significant and the project remains highly attractive with sanction forward economics of $2.48 bn NPV and IRR at $60/bbl Brent and $6.55 bn NPV and IRR at $100/bbl Brent.

Atlantis Phase 2
A revised strategy has been developed based on the new context – lower well rates, excellent facility performance with ullage, improved confidence in North and East, high oil prices – to maximize the future value from Atlantis. A Define FM for Atlantis Phase 2 will be presented to RCM in mid 2009 to provide a single FM for the optimized and integrated Atlantis activity set comprising:

- Optimization of Atlantis South based on dynamic well performance
- Development of the North and East areas of the field
- Completion of SS2 (permanent manifolds)

The Phase 2 FM will be preceded by a Long Lead FM in late 2008 to cover front end engineering and procurement of long lead items to accelerate the project and fill the Atlantis facility with production of 96mboed in 2013.

Atlantis continues to be a highly attractive project underpinned by a significant resource potential (730 mmboe net), a high reliability facility and a fiscal environment that provides access to significant upside. At current GFO oil prices ($110/bbl), Atlantis generates RCOP/boed margins of $73/bbl and is expected to pay back in

Redacted

Neil Shaw
SPUL Gulf of Mexico
12th June 2008

Supplemental Finance Memorandum
BP Exploration & Production, Inc. – Gulf of Mexico SPU
Atlantis South Development

Authority requested: For an additional $2,632m of capital and $282m of manifold repair expense as an increase to the sanctioned $1,271m for a total NTE investment of $4,185m to complete the Atlantis South Development.

Why this project?:

- Development of Atlantis fits the SPU's objective function to find and develop major projects that will sustain production of greater than 400mboed from 2010 onwards.
- Technical issues, market inflation, and delays have combined to prevent completion of the project scope at the originally sanctioned funding. The variances are inflation weather scope ($407m), performance & forecasting ($354m) predominantly due to schedule delays such as the Balder flooding event, regulatory and integrity management , manifolds Cap O/H , and future UAP
- First oil was achieved 6 October 2007 followed by first gas on 12 December 2007. Production data indicates that, while rates are in the lower end of the predicted range, the expected reserves will be recoverable. The PQ is operationally best in class for a new startup, averaging 93% ops efficiency vs. a plan of 87%.

Readiness to Execute

- 65% of forward spend is D&C. A dedicated rig contract for the DD2 has been secured through 2013 with an average rig rate of $610k/d.
- The centralization of the SPU D&C organization will enable greater standardization, continuous improvement and sharing of scarce resource to drive improved D&C performance.
- The Atlantis organization is in place to complete delivery of the South Development. Delivery SPA is Simon Todd, VP Atlantis, with a performance target of

Expected Impact on External BP Metrics:

Net @ $60/bbl	2008	2009	2010	2011	2012
[illegible] mboe/d	45	40 *	39 *	45 *	52 *
Capex $m	220	230	272	262	259
Manifold Expense Repairs ($m)	14	38	50	53	50
Post Tax Cash Flow ($m)	404	241	247	318	407
nCOP ($m)					

* Atlantis South production (excludes the Atlantis North Single well tieback)

Redacted

Economics:

Marker Prices	Sensitivity Case	NRI Res mmboe	Net Request $m	NPV $m	IRR %	IE $/$	Payback Yr
$40	FM Request Resources (High/Low) Request (PTA/Low)		4,185 4,185	739			
$60	FM Request Resources (High/Low) Request (PTA/Low)		4,185	2,483			
$100	FM Request Resources (High/Low) Request (PTA/Low)		4,185	6,548			

Redacted

- Table excludes fuel gas Total reserves including fuel gas
- Project breaks even at /bbl Brent with NTE Capital
- Net request column includes both capital and manifold repairs expense

Key Risks and Other Significant Points for Discussion:

- Drilling and completion performance does not deliver a improvement, already included within the performance target. Mitigations include securing a high quality rig and the centralization of the SPU D&C organization in order to drive continuous improvement and learning.
- Acquisition & retention of technical capability in the hot Houston market is not attained. Mitigations include the progression of both financial retention and non-financial leadership actions which the SPU is undertaking to address retention issues.
- Lower than expected aquifer support or higher than expected reservoir complexity. Mitigations include water injection moving forward to execute with first water in 3Q 2009 and the on-going development of a revised depletion plan.
- Post-2012 rig rate inflation is based on $610k/d; a wide range of uncertainty remains.
- Key Learnings:
  - The original estimate was inadequate (e.g. Cap O/H missing, weather optimistic, UAP not aligned to technical risks for a project pushing the technology frontier)
  - Need to better understand technology risks and mitigations
  - BP personnel are essential in key project positions, particularly those involving quality assurance and project control.

Authorities:

Project SPA: _____ Date: 14/8/08
Neil Shaw, Senior Vice President, GoM SPU

Confirmation of RCM Endorsement: _____ Date: 12/8/08
RCM Secretary on behalf of RCM

Approved by: _____ Date: 17/AUG/08
Peter A. Zwart, Corporate Officer,
BP America Production Company

Additional Information: Cost Forecast and Variance
Supplemental Finance Memorandum
BP Exploration & Production, Inc. – Gulf of Mexico SPU
Atlantis South Development

This note provides more explanation around the forecast for the remainder of the Atlantis South Project and the cost escalation observed vs. sanction. This document complements the Supplemental FM.

Description of Remaining Project Scope and Costs

The following table summarizes sunk and remaining spend for each major cost category.

	PQ	Subsea	Wells	Cap O/H	Total
Sanction *					
Sunk Cost as of End April					
Yet to spend **			Redacted		
Perf. Target FM Supplement					
Add'l UAP					
NTE FM Supplement	**849**	**940**	**2,029**	**366**	**4,185** ***

* Sanction value per March 2005 Information Note
** Yet-to-spend includes . of UAP (PQ = . Subsea = , Wells =)
*** Total spend of includes capital of and subsea manifold (SS2) expense of .

Wells: 65% of the remaining spend occurs in well activities. To date, eight wells have been completed. Eight production wells, four water injection wells, and 18 interventions remain.

For drilling, the industry mean performance is 28 days per 10K whereas Atlantis drilling performance to date has averaged . days per 10K. Future wells are expected to be more complex, highly deviated, and drilled through depleted sands. These changes by themselves would result in days per 10k. A improvement assumption results in the days per 10k targeted in this supplement. The NTE target is days per 10K in which non-productive time (NPT) has been added commensurate with

For well completions, the industry mean performance is 42 days per dual completion whereas Atlantis completions performance to date has averaged days for dual wells. The performance target for this supplement is days which is based on a performance improvement on the portfolio of remaining Atlantis completions. The NTE target is days in which NPT has again been added commensurate with

Specific events that could contribute to the use of UAP for wells include a significant well failure (resulting in re-drill), additional sidetracks due to technical difficulties, continued higher well service inflation, additional weather and/or loop current delays, and higher non-productive time associated with the increasing complexity of the remaining wells program.

Subsea: 20% of remaining spend occurs in subsea activities, which represents costs to install the trees and controls associated with the remaining undrilled wells, and costs for the engineering, long leads, and installation of the permanent manifolds. UAP estimates account for technical, weather, and inflationary risks, and were based on a cost risk workshop facilitated by an independent EPTG expert.

Topsides: Remaining topsides costs represents pigging pump, waterflood, and LDHI activities.

CapOH: Capitalized overhead represents both anticipated direct costs and other indirect allocations, consistent with 2008 LTP assumptions.

Cost Variances by Category

The following table and subsequent text examine the cost variances for the Atlantis South Project by category.

Redacted

Inflation ( ) – Rig rate inflation accounts for . spread rate and tangibles inflation is , flowline installation inflation is and materials and labor inflation is . Almost all of the inflation associated with the rigs is for future well activities, though the amounts forecast are tied to the recently re-negotiated rig contract.

Weather (**)** – Weather-related delays in the installation of subsea facilities cost $. m, and weather associated with drilling and completion activities is estimated to total $. .m. Two thirds of the D&C weather forecast is for future activities and is based on SPU guidelines.

Scope (**)** – The largest scope increase is for intervention work of .. This is based on geologic learnings which vs. sanction increased both the complexity of (wellbore utility sidetracks increase while simple plug-back recompletions decrease) and the number of intervention activities necessary to recover the sanctioned reserves. Additional scope increases include m for wells and subsea costs for completion design including downhole flow control, for shallow water flow risk mitigation for casing design, geologic surprises, and wellbore trajectory changes, and for corrosion jumper probes, installation of a pigging pump, waterflood alterations, gas lift, and other minor changes. The interventions, downhole flow control, and topsides scope is associated with work yet to go.

Performance and Forecasting (**)** – Schedule delays, caused by events other than those related to learnings from the TH listing (i.e., the Balder flooding repairs), have caused additional spending of for extended project teams, yard, and vessel costs. Wells performance due to a combination of schedule impact associated with subsea and Mardi Gras delays, and an increase in Days/10k due to better understood well complexity, results in .m of additional spending. The remaining m is associated with higher logistics costs (including the addition of a floatel) and numerous items which were not fully included in the sanction forecast and for which the sanction UAP was insufficient. The majority of this variance has already been spent.

Regulatory and Integrity Management Changes (**)** – A number of late equipment changeouts (e.g., bilge piping, hull HVAC system) were required by the USCG/ABS and BP's marine group in the 2005-2006 timeframe following the Thunder Horse listing incident. These late changes resulted in higher design and equipment costs as well as increased labor and vessel costs due to significant schedule delays. All of this incremental cost has been spent.

Manifold Repairs (**)** – Following manifold failures at Thunder Horse, the decision was made to retrieve and replace the Atlantis manifolds. These manifolds have been rebuilt and re-installed on the seafloor using immediately available and recycled materials. Preparations to construct the permanent replacement manifolds are progressing; the Long Term Plan calls for the deployment of the new manifolds in 2011/2012. of the .m is future spending.

Capitalized Overhead (**)** – This variance is a result of minimal capitalized overhead, .n, assigned at the time of sanction.

Redacted

EXHIBIT 65

Atlantis South Supplement Cost Estimate Summary

Monies Represent Total Gross Cost with Combined Expense & Capital
Prepared by EPTF Project Services - KD

13-May-2008

Supplement Request	US$MM
Spent thru April, 2008 beyond original EFM	$944
(FM $2,003 - spent $XXXX MM--includes cap o/h)	
Base Subsea & Facility Cost To-Go	
Cap Overheads	$175
Cap ovhds - Sept 07 thru 2012	
IPT/PM/Other - Jan 08 thru 2012	
IPT / PM / Other (Sept 07 thru Dec 2007)	$18
Subsea	$581
Additional Work	$10
Base Cost	$764
UAP (see UAP cal'c)	
Performance Target	
Additional UAP (see UAP cal'c)	
Not To Exceed	
Performance Target	
Spent Thru April 2008 beyond Orig FM	$944
Subsea / Facility To-Go	$898
D&C Cost To Go (Mean)	$1,238
Total	$3,076
Not to Exceed	
Spent Thru April 2008 beyond Orig FM	$944
Subsea / Facility To-Go	$1,095
D&C Cost To Go (P80)	$1,890
Total (Supplement Request)	$3,929

	US$MM
Original FM	$2,003
Supplement Request - NTE as of 5/12/08	$3,929
Performance Target as of 5/12/08	
Total Gross Project Cost - NTE	$5,932

All Costs are "Today's Money"
All Costs are "Gross USD Dollars"

SUBSEA	US$MM
SS1 To Go	$0.0
Engineering To Go (SS2)	
TOI Program	$6.0
BP T&E	$1.6
Speciality Studies	$5.3
Warranty Survey & T/E	$1.0
QA/QC	$11.4
Market Allowance	
Subtotal	
Equipment To Go (SS2)	
Manifold, Pig Loop & PLEM Fab	$64.2
CAT Tools	$14.0
Pressure Caps	$2.0
Logistics (onshore)	$16.0
Jumpers & Parking Skids	$15.1
Market Allowance	
Subtotal	
Installation To Go (SS2)	
Installation	$106.2
Commissioning	$11.5
Market Allowance	
Subtotal	
TOTAL SS2	
Engineering To Go (Non SS1/SS2)	
TOI Program thru 2012	$12.4
BP T&E	$1.6
Speciality Studies thru 2012	$15.0
Warranty Survey & T/E	$2.5
QA/QC	$2.7
Market Allowance	
Subtotal	
Equipment To Go (Non SS1/SS2)	
FMC Support Cost Thru 2012	$2.4
Trees & Controls thru 2012	$52.5
ROV/IWOC/Jumpers	$44.7
Corrosion Probes	$8.1
Umbilical	$0.5
Logistics (On-shore)	$7.0
Market Allowance	
Subtotal	
Fabrication To Go (Non SS1/SS2)	
FL/Riser/Umbilical	$0.00
Subtotal	$0.00
Installation To Go (Non SS1/SS2)	
Additional Flowline Strakes	$3.0
Chain Jack thru 2007	$1.9
Coil Tubing thru 2008	$0.0
ROV/Installation/Misc thru 2012	$79.3
Umbilical thru 1st Qtr 2008	$0.0
Commissioning	$4.4
Market Allowance	
Subtotal	
Total Non SS1-SS2	
TOTAL SUBSEA	

Additional Work Scope	US$MM
WI Flex Joint Repl Project (eng only)	$0.5
WI PLET Remediation Project (eng only)	$0.5
Waterflood Minox Unit (2008)	$3.7
Low Dose Hydrate Inhib. Skid (2008)	$3.0
Riser Gas Lift	$1.8
TOTAL ADD WORK SCOPE	$9.5

Wells	US$MM
Updated Well Cost Estimate per Eddie Antonio - as of 7/11/07	
P10	$1,393
P50 (mean)	$1,792
P80	$2,446
Spent Cost Thru June 07	$556
Note: 7 wells drilled & completed as of June 15, 2007	
Wells Cost To-Go $	
P10	
Mean	
P80	

Redacted

Discovery EX No. 347
Cause No.
4:09-cv-01193
Abbott v. BP

Case 4:09-cv-01193 Document 341-15 Filed in TXSD on 04/04/12 Page 3 of 4

Redacted

Total Market Allow $ 565 4

Base Subsea & Facility Cost To-Go	Base	UAP %	UAP $	PT	Add UAP %	Add UAP $	NTE	Notes
Subsea SS-2								Brownfield Complex PM
Subsea DC-1								Greenfield Std PM
Additional Work								
IPT				Redacted				
Capitalized Overheads								
Total								

EXHIBIT 66 NOT USED

EXHIBIT 67

From: Naseman, Bill E
Sent: Friday, April 25, 2008 3:17:37 PM
To: Broman, William H(HOU)
CC: Duff, Barry C
Subject: Project Close out for Subsea

Discovery Ex. No. **112**
Cause No.
4:09-cv-01193
Abbott v. BP

Bill -
During our discussion of project close out today at my staff meeting, Barry brought up several issues related to the subsea project close out work. The issues were far reaching and I think honestly portray where we are (or maybe better said where we aren't) as it relates to the subsea close out. I appreciate Barry's openness about this situation and agree with his points about what should have been done by whom by when, but I also recognize that we are where we are and can't change the past.

I've had a chance to sit down with Dirk and discuss this a little and I have secured Dirks commitment to help out here to develop the content of the subsea close out. Dirk has agreed to assist the two of you in developing this during the week of May 5. He has also agreed to help raise the priority with the team leads if required. Some key points on this-

We aren't going to have everything that we'd want if we were to do this whole project again, but we need to capture and organize what we have.

We shouldn't spend a great deal of time going back and trying to re-create things that we don't have. There are certainly lessons to be learned on this front.

If we need to bring in some resources on the project services side to help out in *coordinating* this, we need to identify what we need and for how long. I will handle approvals for this with Simon.

Bill Naseman
Project Services Manager
Atlantis
Office: 281-366-6936
Cell: 832-257-6927
Bill.Naseman@bp.com

Redacted

EXHIBIT 68

From: Duff, Barry C
Sent: Tuesday, May 06, 2008 4:57:37 PM
To: Gregg, Andrew (Gregg Valdes & Assoc)
CC: Garland, Mike L; Curtis, Tinikka (NES)
Subject: Proposed Change to Document Numbering Guide

Discovery Ex. No. **114**
Cause No.
4:09-cv-01193
Abbott v. BP

Follow Up Flag: Follow up
Flag Status:

Attachments: 1400-10-AD-PR-0212.pdf

Hi Andy,

We are struggling with the established document number scheme as defined in document 1400-AD-PR-0212, "BP Gulf of Mexico Deepwater Development Document Numbering Guide", (copy attached).

ISSUE
The primary issue is that for Atlantis, the Numbering Guide, is set up to put all Subsea documents under the same number scheme, (i.e., Project 1440, Sector 30). Currently Atlantis has six (6) Drill Site Projects either underway or planned over the Field life, namely:

DC-1 (Original)
SS-1 Phase I Manifolds
SS-2 Phase II Manifolds
DC-3 (aka North Flank)
DC-2
DC-5.

There are also planned future expansions at DC-1 and DC-3.

As we try to close out individual projects, the current number scheme makes this task extremely difficult in that we do not know unless the document is opened and reviewed whether it is for DC-1, SS-1, SS-2 or DC-3.

PROPOSAL
The current number scheme has a sequence gap of 40 between Atlantis (1440) and Mardi Gras (1480). I am proposing to modify the Project number scheme as follows:

Project	Project Number	Comments
DC-1 (Original)	1440	No change. This minimizes the number of documents that need to be revised
SS-1 Phase I Manifolds		No change. SS-1 Manifolds would be part of DC-1.
SS-2 Phase II Manifolds		No change. SS-2 Manifolds would be part of DC-1.
DC-3 (aka North Flank)	1445	
DC-2	1450	
DC-5	1455	
DC-1 Expansion		No change. New Manifolds would be part of DC-1.
DC-3 Expansion		No change. New Manifolds would be part of DC-3.
Future Expansion	1460	Would be reserved for Atlantis Subsea.

Redacted

Future Expansion Subsea.	1465	Would be reserved for Atlantis
Future Expansion Subsea.	1470	Would be reserved for Atlantis
Future Expansion Subsea.	1475	Would be reserved for Atlantis

I would appreciate your feed back to assist in the project closeout efforts (primarily for DC-1/SS-1, but this also affects flowlines and umbilicals for DC-3).

I am assuming you are the owner of 1400-AD-PR-0212, "BP Gulf of Mexico Deepwater Development Document Numbering Guide" and would facilitate making the change. Once approved, I can work with the subsea contractors to change their contracts and procedures.

Best Regards,

Barry C. Duff
Project Services Lead

BP DW GoM Production
Atlantis Subsea Team
11700 Old Katy Road, Suite 150
Office number 4.64
Houston, Texas 77079
Office: +1 (281) 249-1510
Cell: +1 (713) 408-1933
Fax: +1 (281) 249-4323
Together, we will make Atlantis the safest, cleanest, most reliable and best performing asset!

1400-10-AD-PR-0212.pdf
(149 kB)

Redacted

EXHIBIT 69

From: Imm, Gary R
Sent: Saturday, May 13, 2006 11:23:53 AM
To: Berger, Ron K.
Subject: RE: Atlantis Documentation Project Emergency

Discovery Ex. No. **225**
Cause No.
4:09-cv-01193
Abbott v. BP

Ron,

In the times that I have interfaced with this group (admittedly more than a year ago), I can relate to your comments below and I strongly support your recommendation of an increased BP presence. I believe that Greg has asked Bill Naseman to look into this since he perceives it to be Bill's accountability. I will raise the issue at the next Atlantis leadership meeting to help push it along.

Gary

From: Berger, Ron K.
Sent: Thursday, May 11, 2006 8:47 AM
To: Sills, Greg S; Imm, Gary R; Fortune, Steve
Cc: Oneto, Rick; Gregg, Andrew (Gregg Valdes & Assoc); Berger, Ron K.
Subject: Atlantis Documentation Project Emergency

Greg / Gary,

I think is only intended for safety use, by I'm invoking STOP the JOB on the Atlantis Documentation Handover Project (ADHP). The ADHP has been treated as a step-child on this project for over a year. As an end-user, I am extremely concerned whether I'll have access to the proper project documentation post start-up. If we have any kind of emergency crisis before then, I only hope it will accessible directly from the vendors.

The reason I can say this is I have participated in meetings with the ADHP team for over a year. I know ya'll do not. Although lately I have not been as punctual as I was early in the year, I do know that I have probably been the most consistent BP representation at those meetings. If there is an expectation that Rick is providing the proper technical oversight to the ADHP team, then those people are sorely mistaken (this is not intended to be a punch at Rick).

Bulletin Board Test

- No full-time BP leadership on the ADHP, ever, in the past year
- Joe Garcia left the project
- Glen Rupert quit the project
- Debra Hurst is leaving the project
- Anarchy in the ADHP meeting yesterday
- The ADHP team is being asked to deviate from a Specification that they have been following for over 4 years.

My opinion is that the attrition on the ADHP team is directly because BP is expecting delivery of something but will not provide the proper technical direction and commitment to do it.

In the meeting yesterday with the ADHP team, I asked what single message that the team wanted me to carry forward, and it was "Provide the ADHP team with some BP leadership". If John Brown says we can have any resources we need to make this project a success, I'm saying we need a BP documentation lead on the ADHP FULL TIME (5 days a week, 8 hours a day) to pull the team together and potentially save a documentation disaster. This probably needs to be someone out of Fortune's group. This needs to be a person who understands what needs to be delivered; not an Operations Manager, not an Operations Engineer, not a Mustang Engineer, or just another body.

Ron Berger
SS Ops Eng

Redacted

EXHIBIT 70

From: Peloubet, Robert R
Sent: Tuesday, April 20, 2010 10:42:23 AM
To: Todd, Simon P
CC: Broman, William H(HOU); Benson, Steve S; McDougall, John (Orion Engineering)
Subject: RE: Subsea as-builts

Simon,

I agree. This email chain adds a new perspective on where offshore is in experience. We'll have to get with Andy Gregg, etal, at Westlake to confirm the details of linking SPF to the subsea drawings.

Regards,

Bob

Discovery Ex. No. **227**
Cause No.
4:09-cv-01193
Abbott v. BP

From: Todd, Simon P
Sent: Tuesday, April 20, 2010 9:28 AM
To: Peloubet, Robert R
Cc: Broman, William H(HOU); Benson, Steve S; Todd, Simon P
Subject: FW: Subsea as-builts

Bob, see the email train below - supports my suggestion to you that the ops folks offshore could do with some re-freshing.

Simon

From: Broman, William H(HOU)
Sent: Tuesday, April 20, 2010 8:47 AM
To: Todd, Simon P
Subject: FW: Subsea as-builts

Fyi on Ron working to make sure Ops can see the files.

I do not know about SPF and will have to follow up on it with Ken

---

From: Roades, Barth L
Sent: Tuesday, April 20, 2010 8:24 AM
To: Berger, Ron K (Manatee); Bish, Steven S; Herrmann, Douglas T; Gipson, Les; DeJohn, Kenneth P
Cc: Broman, William H(HOU); Bish, Steven S; Saadatmand, Nassrine; McNease, Kristy (Gregg Valdes)
Subject: RE: Subsea as-builts

Ron,

Appreciate the info. I went out to Documentum in the Deepwater Development folder and found where the Subsea drawings are located. Very difficult to find what you're are looking for. This drawing will be beneficial.

Bill,

What's the schedule for getting the documents loaded so we can search and access from SPF. All of our guys use SPF for searching drawings and currently have no access to the Subsea info w/o currently having to log into Documentum separately. We have all our Topside and Hull loaded in DWP and accessible in SPF. Don't understand why we can't do the same with the Subsea.

Barth

From: Berger, Ron K (Manatee)
Sent: Tuesday, April 20, 2010 7:56 AM
To: Roades, Barth L; Bish, Steven S; Herrmann, Douglas T; Gipson, Les; DeJohn, Kenneth P
Subject: Subsea as-builts

Redacted

I heard from somebody that ya'll don't know how to access subsea drawings. As for as-builts, this is my suggestion:

- Attached is the subsea as-built register which currently is up to date for the ANF single line system. The drawing is in process of being updated for the ANF buildout. This drawing lists ALL the subsea as-builts necessary for operation with their current revision #. I keep a copy of it on my wall. This drawing is reviewed monthly by myself, the bp subsea engineering team lead, and the manager for the subsea engineering contractor.
- Find what you need off this drawing and then go to documentum to get it. We have done quality checks and everything on this drawing should be there. If you find something that is not, please bring it to the attention of bill broman.

<< File: 1440-30-SB-DG-0689.ZIP >>

EXHIBIT 71

From: SVBerg@technip.com
Sent: Monday, September 22, 2008 10:09 AM
To: Oza, Nita <Nita.Oza@bp.com>
Subject: RE: Can you help me please?
Attach: 3478-BSB-DC-0374-rev-4.pdf; 3478-BSB-DC-0375-rev-6.pdf; 3478-BSB-DC-0577-01-rev-2.pdf; 3478-BSB-DC-0577-02-rev-2 .pdf

(See attached file: 3478-BSB-DC-0374-rev-4.pdf)(See attached file: 3478-BSB-DC-0375-rev-6.pdf)(See attached file: 3478-BSB-DC-0577-01-rev-2.pdf)(See attached file: 3478-BSB-DC-0577-02-rev-2 .pdf)

Nita,

Sorry it took so long to get these to you....I was out all last week.

Shawn

"Oza, Nita" <Nita.Oza@bp.com>
09/17/2008 03:46 PM
To "Berg, Shawn V (Technip)" <svberg@technip.com>
cc
Subject RE: Can you help me please?

Hi Sean,

I was looking for an as built drawing for the SPCU 1, 2 and 3

Drawing numbers:
3478-bsb-dc-0374 for 1
0365 for 2
0577 for 3

Your help would be great.

Nita

-----Original Message-----
From: SVBerg@technip.com [mailto:SVBerg@technip.com]
Sent: Tuesday, July 22, 2008 10:07 AM
To: Oza, Nita
Subject: Re: Can you help me please?

(See attached file: 3478-BSB-DD-0038-01-rev-0.pdf)(See attached file: 3478-BSB-DD-0038-02-rev-0.pdf)(See attached file:

3478-BSB-DD-0038-03-rev-0.pdf)(See attached file:
3478-BSB-DD-0039-01-rev-0.pdf)(See attached file:
3478-BSB-DD-0039-02-rev-0.pdf)

"Oza, Nita"

<Nita.Oza@bp.com>

To

07/22/2008 09:30 AM "Berg, Shawn V (Technip)" <svberg@technip.com>

cc

Subject

Can you help me please?

Hi Sean,
Can you help me please?

I am looking for some drawings on Documentum, and I can't find them.

BP D0c number: 1440-10-ge-0006 -001 through to 003

3478-BSB-DD-0038 pages 1 to 3

As well as

BP DOC Number: 1440-10-GE-DG-0007- 001 through to 002
3478-BSB-DD-0039 pages 1 to 2

If you send a PDF of both the sets that would be great...

Thanks for all your help,

Kind regards
Nita Oza
Atlantis Operations
Onshore Subsea Team Lead
Office: 281 366 3901

EXHIBIT 72

From: Osborn, Linn <Linn.Osborn@mustangeng.com>
Sent: Monday, May 12, 2008 4:15 PM
To: Garland, Mike L <Mike.Garland@bp.com>
Cc: Watkins, Randy <Randy.Watkins@mustangeng.com>; Butler, Myles (KBR) <Myles.Butler@mustangeng.com>; Heinrich, Ben (Mustang Engineering) <Ben.Heinrich@mustangeng.com>; Robinett, Bernie (Mustang Engineering) <Bernie.Robinett@mustangeng.com>; McNease, Kristy (Gregg Valdes) <kristy.mcnease@BP.com>; Klarqvist, Dick (Mustang) <Dick.Klarqvist@mustangeng.com>
Subject: RE: Atlantis Floating System Document Access

OK and yes we can and will.

Linn

-----Original Message-----
From: Garland, Mike L [mailto:Mike.Garland@bp.com]
Sent: Monday, May 12, 2008 3:09 PM
To: Osborn, Linn
Cc: Watkins, Randy; Butler, Myles; Heinrich, Ben; Robinett, Bernie; McNease, Kristy (Gregg Valdes); Klarqvist, Dick
Subject: RE: Atlantis Floating System Document Access

Linn.

The original plan as you quite rightly said was to use documents contained in Documentum, however this is after handover and project close out of both Topsides and Floating Systems. We are not yet in that position for Topsides and Floating Systems so please revert to using the Floating Systems documents contained on the Floating Systems server (\\kn3wr).
Can we also ensure that any revised documents are routed back thru Dick Klarqvist and not directly issued to mustang document control.

Regards.

Mike.

From: Osborn, Linn [mailto:Linn.Osborn@mustangeng.com]
Sent: 12 May, 2008 12:21 PM
To: Heinrich, Ben (Mustang Engineering); Robinett, Bernie (Mustang Engineering); Garland, Mike L; McNease, Kristy (Gregg Valdes)
Cc: Watkins, Randy; Butler, Myles (KBR)
Subject: RE: Atlantis Floating System Document Access

The Original Plan, as I saw it, was to use Documentum. The idea was we would develop a list of drawings/documents we needed, requested them from Kristy who would 'check them out' to us, make our changes, issue, and 'check them back in' with Kristy. This would actually be for both FST docs AND Topsides, as once we turn the documents over (which we have for Topsides) BP is in control of the originals and they MIGHT have made changes we dont know about. (Currently that is not a major concern.)

We did not implement it this way as, at the time, the lions share of the FST docs were not in Documentum.

The way I see it, going to documentum and getting them checked out is the way to do it long term. The only question is when, and maybe when is now.

Mike/Kristy comments?

Linn

Redacted

Discovery Ex. No. **279**
Cause No.
4:09-cv-01193
Abbott v. BP

-----Original Message-----
From: Heinrich, Ben
Sent: Friday, May 09, 2008 11:23 AM
To: Robinett, Bernie; Osborn, Linn
Cc: Watkins, Randy
Subject: Atlantis Floating System Document Access

Bernie/Linn,

I am currently putting together a design package to support RFA GC-787-0108 (Chemical Injection Pump Cable Issue for ZZZ-9805). This skid is located in the Riser Bay and related drawings reside in the Floating System network. We are also working on RFA/MOC GC-787-0078 (Battery Replacement and HVAC) that will require Floating System drawing revisions. I attempted to access the Floating System network set up by Dick Klarqvist (\\Kn3wr) and realized we currently do not have access. I discussed this issue with Dick and he stated that he disabled outside access to this network because we were getting confused, so he instructed me to use Documentum as the resource for accessing Floating System related documents. Is this the approach we are to take at this time? Please instruct as to how Mustang is to access/check-out/revise/re-issue Floating System related documents.

Thanks,

Ben Heinrich
Mustang Engineering
713-350-7881
ben.heinrich@mustangeng.com

Redacted

EXHIBIT 73

IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF TEXAS
HOUSTON DIVISION

UNITED STATES OF AMERICA EX REL. KENNETH W. ABBOTT; KENNETH W. ABBOTT, INDIVIDUALLY; AND FOOD & WATER WATCH, INC.,	:	
Plaintiffs,	:	
VS.	:	CIVIL ACTION NO. 4:09-CV-01193
BP EXPLORATION AND PRODUCTION INC., ET AL,	:	
Defendants.	:	

****

ORAL AND VIDEOTAPED DEPOSITION OF
SIMON PETER TODD
MAY 9, 2011

****

ORAL AND VIDEOTAPED DEPOSITION of SIMON PETER TODD, produced as a witness at the instance of the Plaintiffs, and duly sworn, was taken in the above-styled and numbered cause on May 9, 2011, from 9:12 a.m. to 4:31 p.m., before PHYLLIS WALTZ, CSR, TCRR, RPR, CRR, in and for the State of Texas, recorded by machine shorthand, at the offices of Fulbright & Jaworski, L.L.P., 1301 McKinney, Suite 5100, Houston, Texas, pursuant to the Federal Rules of Civil Procedure and the provisions stated on the record or attached hereto; that the deposition shall be read and signed before any Notary Public.

BOEMer in books 1 through 6. I don't know if -- can you tell me if that's even in the ballpark or not?

A. I don't remember the total number.

Q. My folks tell me that less than 10 percent of them are actually labeled as-built. Does that number come as any surprise to you?

A. Nope.

Q. Okay. I'm -- you probably wouldn't want to verify it, but you're not surprised by it?

A. No.

Q. And so whenever you were going to submit these to the government -- did the government ask you to submit the structural drawings?

A. Yes, that was the reason why we were making this submission.

Q. And -- and by the time you were making this submission you had a pretty good idea if they just started looking through there, there might be -- the vast majority of them, they might find had no label that said, quote, as built, close quote?

A. I can't comment with accuracy on -- on the portion as you have done, but certainly some would not have been labeled as built, quote.

Q. Okay. So you put in your letter you're sure that were that you were telling them that these drawings

really are as-built even if they aren't labeled as-built?

A. Correct.

Q. Okay. Now, whenever you-all were submitting these books 1 through 10 was it important to you to submit -- was it important to you that the drawings that you submitted be the latest, most accurate, most updated drawings?

A. Yes.

Q. Okay. Now, there is a system that I think I have learned about in the last short period of time about the way engineers do things that I don't know if you know about it or can confirm this for me or not, but I want to ask you and find out. It is my understanding that on engineering drawings, first of all, that it's common that a given engineering drawing may go through quite a number of revisions. Is that your understanding?

A. Yes.

Q. It's my understanding that any given drawing might go through more or less revisions, depending on the circumstances?

A. Yes, agreed.

Q. It's my understanding that it is a standard procedure that every time a drawing goes through a

A. In most circumstances that's correct.
Q. Okay. That's the intent, at least?
A. Correct.
Q. Okay.
10:59 A. That's the intent, yeah.
Q. Yeah. And I -- I think we both talked about some problems you had with that and we can get to them if we need to, but right now I'm just asking you the basic intent is that people that need to look at a
10:59 document can always look at the latest version by getting to it electronically in Documentum?
A. There's two -- you said two things there, Mr. Perry. You referred to problems in that --
Q. I'm not asking you about the problems. I'm
11:00 just asking that the basic intent is --
A. All right. So then can you rephrase the question, then please for me?
Q. Sure. The basic intent of your Documentum system includes the idea that anybody who needs to look
11:00 at a drawing can get to the latest, most up to date version of it by electronic access to Documentum?
A. That is correct.
Q. Now, I take it that on the issue that there was going to be a body of documents that you-all were
11:01 treating as as-builts even though they were not labeled

as as-builts, that that situation was something that was well known to quite a number of people inside BP?

A. Correct. As I said earlier, it's customary practice.

11:01 Q. Okay. You found that was a customary practice at least on Atlantis?

A. Yes, that's what I said earlier.

Q. Had that also been a customary practice on Thunder Horse?

11:01 A. Can't answer with any assuredness on that question.

Q. Okay. The people that were aware of that situation in addition to yourself, would that have included any of your superiors by the time you sent in

11:01 the letter in August of 2010?

A. Yes, I'm -- I'm fairly sure that we informed my superiors on the fact that we were clarifying the document -- documentation labeling to the BOEM so that they understood what they were getting.

11:02 Q. And what superiors were informed about that situation?

A. At that time the -- we called them strategic performance unit leaders at that point, but the person in charge of the Gulf of Mexico was Pete Zwart, P-e-t-e

11:02 Z-w-a-r-t -- Pete was --

A. (Witness tenders document.)

Q. This is an e-mail in which you are -- you have sent an e-mail to the man at BOEMRE in response to some questions that he asked you, right?

11:24 A. Correct.

Q. And one of the questions, the title here is, 1, No. 1, BP's standard for as-built drawings and there's a two-paragraph answer; but what I want to ask you is did you actually physically write this yourself? 11:25 I would assume that you relied on somebody else to develop the answer for you, and you incorporated it in -- in your response; is that true?

A. That was actually a little bit of a mix of both. I relied on some folks to help me and, also, did 11:25 some work myself on that response to make sure that it was clear.

Q. My question to you is who did you rely on to help you develop that response?

A. Goodness. I don't remember exactly. 11:26 Certainly -- could I --

Q. Sure.

A. Try and jog my memory here. Yeah, so more generic questions like standards for as-built, I would have probably referred to someone like Bob Peloubet.

11:26 Q. I'm sorry, who?

A. Bob Peloubet, his name is Robert, R-o-b-e-r-t, Peloubet, his last name is P-e-l-o-u-b-e-t. And Bob at that time was subsea engineering manager for Atlantis, so he would have helped me a lot with understanding some
11:26 of the technical details. With respect to hull and topsides, I pulled on people like Ken DeJohn. Ken at that point was the engineering -- point of this e-mail was the engineering team leader for Atlantis and had been on Atlantis for quite some time and understood the
11:27 details of this in a very good way.

Q. Would you -- would you stop and spell -- spell that name.

A. Yeah, sure. Ken, K-e-n, then DeJohn is D-e-J-o-h-n.

11:27 Q. Okay. And then you started to say Ana? Or maybe you were going for -- I don't know. You were starting -- you -- I interrupted you.

A. Yes.

Q. And you were giving me the names of people you
11:27 relied on. So continue on, please.

A. Yes. I also -- I also got some help from Jonathan Hunter here in terms of crafting this in order to --

MR. DENNY: Don't tell him what the
11:28 lawyers talked to you about.

that tell the fabrication shop how to fabricate the particular pieces of equipment, right?

A. Yes.

Q. And then as the fabrication is getting done and the assembly is getting done the way you get from a construction drawing to the next stage, which is as-built, is they have either engineers or people working under the supervision of engineers who actually check how everything is done to make sure that it conforms to the construction drawing, right?

A. Correct.

Q. And sometimes, oftentimes there are changes that need to be made intentionally, for one reason or another, true?

A. True.

Q. Sometimes there might be changes that are made unintentionally, for some reason or another?

A. Can you give me a "for instance" what you're thinking about?

Q. Well, somebody -- a plumber might install a check valve backwards.

A. So that's certainly what happened there, but --

Q. That would be an unintentional deviation from the construction drawing?

A. Correct, I would agree with that, yeah.

Q. Okay. And having people do this detailed checking both allows them to find unintentional deviations and also to find and record intentional deviations, right?

12:15

A. Correct.

Q. The unintentional ones can be corrected, the intentional ones can be reported, and the documents can be upgraded to be as-built, right?

12:16

A. I would agree with that.

Q. The listing problem on Thunder Horse would apparently be the result of the people who put it together failing to catch an unintentional deviation from the construction drawings, right?

12:16

A. Not entirely. As I think I described earlier, the event was exacerbated by that check valve being in the reverse position, but was precipitated by another problem.

Q. What was the other problem?

12:16

A. The -- it was the pneumatic system -- I'm sorry, the hydraulic system on the valves causing the valves to actuate on the bilge system.

Q. And what was --

A. I'm sorry, the ballast system.

12:17

Q. So the hydraulic system malfunctioned?

A. Yes.

Q. And what caused it to malfunction?

A. It was a block that was enacted by one of the operators on a return line from the hydraulic system as part of the evacuation process; and by blocking that, that turn line, that kept that system energized so that the actuation mechanism of certain ballast valves were allowed to float and not allow the water to start moving.

12:17 Q. Did the operator fail to follow the checklist?

A. If I recall correctly, there was a deficiency in the procedure.

Q. The procedure didn't say the right thing to do?

12:17 A. Yes.

Q. And one --

A. And I think the BOEM considered same in their investigation.

Q. And one of the things about all these

12:18 facilities is that they use thorough and detailed operating procedures that are based on having access to accurate drawings that show either how the facility was built or will be built; isn't that right?

A. It's certainly true for activity that are

12:18 critical to safety and operability.

I, SIMON PETER TODD, have read the foregoing deposition and hereby affix my signature that same is true and correct, except as noted above.

SIMON PETER TODD

STATE OF T E X A S)
COUNTY OF Harris)

Before me, Mary Jo Kasperek, on this day personally appeared SIMON PETER TODD, known to me, or proved to me under oath or through BP Badge (description of identity card or other document)), to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that they executed the same for the purposes and consideration therein expressed.

Given under my hand and seal of office on this, the 5 day of July, 2011.

Mary Jo Kasperek
NOTARY PUBLIC IN AND FOR THE STATE OF TEXAS

My Commission Expires: 10-10-2014

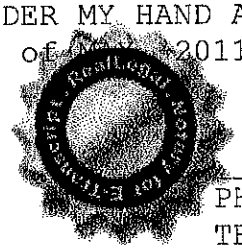
MARY JO KASPEREK
Notary Public, State of Texas
My Commission Expires
October 10, 2014

THE STATE OF TEXAS :
COUNTY OF HARRIS :

I, PHYLLIS WALTZ, a Certified Shorthand Reporter, Texas Certified Realtime Reporter, Registered Professional Reporter, and Certified Realtime Reporter in and for the State of Texas, do hereby certify that the facts as stated by me in the caption hereto are true; that the above and foregoing answers of the witness, SIMON PETER TODD, to the interrogatories as indicated were made before me by the said witness after being first duly sworn to testify the truth, and same were reduced to typewriting under my direction; that the above and foregoing deposition as set forth in typewriting is a full, true, and correct transcript of the proceedings had at the time of taking of said deposition.

I further certify that I am not, in any capacity, a regular employee of the party in whose behalf this deposition is taken, nor in the regular employ of his attorney; and I certify that I am not interested in the cause, nor of kin or counsel to either of the parties.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, on this, the 23RD day of [illegible] 2011.



PHYLLIS WALTZ, CSR, TCRR, RPR, CRR
TEXAS CSR NO. 6813
Expiration Date: 12/31/11

Worldwide Court Reporters, Inc.
Firm Certification No. 223
3000 Weslayan, Suite 235
Houston, Texas 77027
(713) 572-2000

EXHIBIT 74

From: Todd, Simon P
Sent: Saturday, July 03, 2010 8:56:17 AM
To: Domangue, Bryan
CC: Todd, Simon P; MC252_Email_Retention
Subject: Slide pack from April 6th 2010 New Orleans Meeting

Discovery Ex. No. **208**
Cause No.
4:09-cv-01193
Abbott v. BP

Attachments: Atlantis Response.pdf

Bryan

I have attached an electronic copy of the slide presentation that we brought with us to discuss at our April 6, 2010 meeting in New Orleans. I would note three things about the attachment.

First, it is in the exact form we brought with us to the meeting. I mention that as there are several gaps in the page numbering because we pulled a few pages before our meeting. On review, they didn't seem to fit with the others.

Second, although we brought this presentation to the meeting, you will recall that in the end we actually talked over only a few of these slides and took them with us rather than leave them. You are welcome to this copy now, but I didn't want any confusion about how they were used (or, really, were not used) at our meeting.

Third, these slides weren't designed to be read as an independent source of information. They were designed for use as part of a discussion about the topics indicated. Because we didn't really present from them at the meeting, and we didn't discuss the contents, these slides may not be very effective communication of complete information all by themselves. If you like, we would be happy to arrange a discussion with you or your team members about all or any subset of these slides at a convenient time and place.

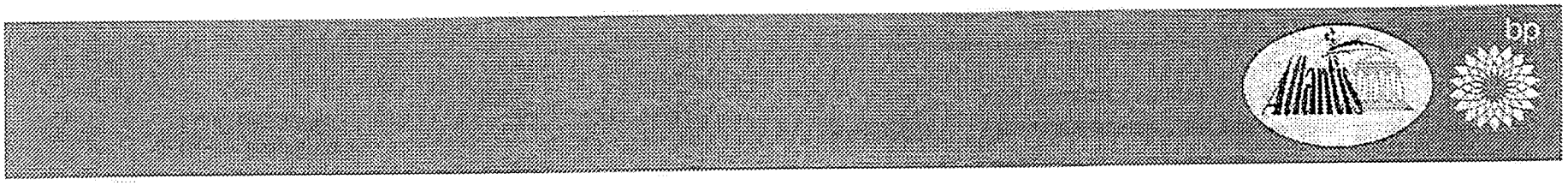
Please let me know if you have any thoughts or questions about any of this material or anything I've included in this note.

Atlantis
Response.pdf
(3 MB)

Simon

Redacted

Redacted



Operators expectations: .....That

Project will deliver at first oil a fully populated & functional system in line with the GOM model for Information Management.

Made up of:

- Specification for Data and Information Handover from Projects into Operations:

  i.e. Document No: 1400-85-IM-SP-8700: Specification scope includes:

  - *Electronic documentation and data*
  - *Electronic file formats*
  - *Hard copy archive*
  - *As-Built records*
  - *Document retention periods*
  - *Electronic systems populated:*

- Population of Documentum and SPF
- PDMS and InTools ..... supplied As Built to required levels
- Hard Copy Archive

BPEP ABB 00115620

Case 4:09-cv-01193 Document 341-24 Filed in TXSD on 04/04/12 Page 3 of 3

EXHIBIT 75

2 BOEM request for 'As-built" standards and KBR "Final Handover"

From: Domangue, Bryan [mailto:Bryan.Domangue@boemre.gov]
Sent: Friday, August 20, 2010 6:50 AM
To: Sustala, Dennis R
Cc: Lan, Christy M; Wilson, Amy; Bertrand, Vanessa M; Trosclair, Troy; Kruse, Bernard
Subject: As-Built

Dennis;

What, if any, company standard has BP developed that defines "As Built" for engineering drawings. If so, how does your standard compare to industry standards.

Thanks,

Bryan A. Domangue
District Manager
Houma District
(985) 853-5894

NOTICE: This e-mail (including any attachments) is intended for the use of the individual or entity to which it is addressed. It may contain information that is privileged, confidential, or otherwise protected by applicable law. If you are not the intended recipient or the employee or agent responsible for delivery of this e-mail to the intended recipient, you are hereby notified that any dissemination, distribution, copying, or use of this e-mail or its contents is strictly prohibited. If you received this e-mail in error, please notify the sender immediately and destroy all copies.

From: Domangue, Bryan [mailto:Bryan.Domangue@boemre.gov]
Sent: Saturday, August 21, 2010 6:03 PM
To: Sustala, Dennis R
Cc: Bertrand, Vanessa M; Lan, Christy M; Wilson, Amy; Pohler, Craig; Osterman, Mark; Sanders, Ramona N.; Hosch, Peter A; Osterman, Mark; Dessauer, Stephen P
Subject: Final Handover

Dennis;

I need an explanation; on some of the DSME drawings they call the revision name "Final Handover". The dates are just prior to first oil in April 2007, so obviously the facility was already installed in Green Canyon. I am interested in knowing what exactly "Final Handover" means. Please forward this email to someone either with GVAC or DSME who could give me an answer ASAP.

Thanks,

EXHIBIT 76

From: Todd, Simon P [Simon.Todd@bp.com]
Sent: Wednesday, August 25, 2010 12:39 PM
To: Domangue, Bryan
Cc: Todd, Simon P; MC252_Email_Retention
Subject: INFO: Atlantis
Attachments: Chronology Of Subsea Start-Up.pdf; Atlantis Document Numbering Codes.pdf

<<Chronology Of Subsea Start-Up.pdf>> <<Atlantis Document Numbering Codes.pdf>>
Bryan,

This email responds to your recent requests for the following information: (1) BP's standard for "as built" drawings; (2) an explanation of the words "Final Handover" on certain DSME drawings; (3) a chronology showing the sequence in which Atlantis wells and subsea equipment were placed into service; and (4) the document numbering conventions that BP uses for Atlantis drawings.

(1) BP's Standard For "As-Built" Drawings

BP considers an "as built" engineering drawing to be one that accurately reflects the actual, existing condition or configuration of the system or component that is the subject of the drawing. We believe that this approach is customary in the industry and is used by operators, engineering firms, and regulators.

As with any major project involving multiple systems and components, BP retained several engineering firms to design the Atlantis platform and facilities. Because of the involvement of multiple engineering firms, and because each system and component went through its own unique process of design, fabrication, and installation, the nomenclature differs among the "as built" drawings for Atlantis. For example, some of the Atlantis hull drawings used "Rev. 60" to denote "as built" status, while some of the topsides drawings used "Rev. 5." Other Atlantis drawings use different labeling conventions, depending on the design firm and the relevant system or component.

(2) DSME "Final Handover" Drawings

When the Atlantis hull left Korea in March 2005, the DSME hull drawings were labeled "Rev. 60," which reflected the "as built" status of the hull at that time. Once the hull was offloaded at Ingleside, Texas, DSME was no longer involved in updating the engineering documentation. During integration at Ingleside, Texas, certain modifications were made to the hull prior to sail-away and installation. The drawings labeled "Final Handover" reflect KBR's updating of the DSME drawings to reflect the modifications made during integration.

(3) Chronology Of Subsea Start-Up

BP has placed twelve Atlantis wells on production (eleven in DC1 and one in DC3). For each well, the attached table shows the date that production commenced and the flowlines and subsea equipment available for use on that date.

(4) Atlantis Document Numbering Conventions

Discovery Ex. No. **8**
Cause No.
4:09-cv-01193
Abbott v. BP

The second enclosure contains the codes and other information that explain the BP document number assigned to a particular document. For example, using these codes, the number that you provided with your inquiry – 1440-20-PI-DG-4401 – means Atlantis-Topsides-Piping-Drawing-Number 4401. We believe that the information contained in this enclosure is self-explanatory, but please let us know if any additional explanation would be useful.

If you have any additional questions, please let us know.

Simon

EXHIBIT 77

Recommended Practice for Analysis, Design, Installation, and Testing of Basic Surface Safety Systems for Offshore Production Platforms

API RECOMMENDED PRACTICE 14C
SEVENTH EDITION, MARCH 2001

American Petroleum Institute

Helping You Get The Job Done Right.SM

Copyright American Petroleum Institute
Provided by IHS under license with API
No reproduction or networking permitted without license from IHS

Licensee=Chevron API 22 loc/6 usr Part 1/1000001100
Not for Resale, 10/19/2006 08:01:10 MDT

3. INTRODUCTION TO SAFETY ANALYSIS AND SYSTEM DESIGN

3.1 PURPOSE AND OBJECTIVES

The purpose of a production platform surface safety system is to protect personnel, the environment, and the facility from threats to safety caused by the production process. The purpose of a safety analysis is to identify undesirable events that might pose a threat to safety, and define reliable protective measures that will prevent such events or minimize their effects if they occur. Potential threats to safety are identified through proven systems analysis techniques that have been adapted to the production process. Recommended protective measures are common industry practices proven through long experience. The systems analysis and protective measures have been combined into a "safety analysis" for offshore production platforms.

The technical content of this recommended practice establishes a firm basis for designing and documenting a production platform safety system for a process composed of components and systems normally used offshore. Moreover, it establishes guidelines for analyzing components or systems that are new or significantly different from those covered in this document.

After a production platform surface safety system is placed in operation, procedures should be established to assure continued system integrity. Appendix D, Testing and Reporting Procedures, may be used for this purpose.

3.2 SAFETY FLOW CHART

Figure 3-1 is a safety flow chart depicting the manner in which undesirable events could result in personnel injury, pollution, or facility damage. It also shows where safety devices or procedures should be used to prevent the propagation of undesirable events. As shown on the chart, the release of hydrocarbons is a factor in virtually all threats to safety. Thus, the major objective of the safety system should be to prevent the release of hydrocarbons from the process and to minimize the adverse effects of such releases if they occur.

a. Referring to Figure 3-1, the overall objectives may be enumerated as follows:

1. Prevent undesirable events that could lead to a release of hydrocarbons.
2. Shut in the process or affected part of the process to stop the flow of hydrocarbons to a leak or overflow if it occurs.
3. Accumulate and recover hydrocarbon liquids and disperse gases that escape from the process.
4. Prevent ignition of released hydrocarbons.
5. Shut in the process in the event of a fire.
6. Prevent undesirable events that could cause the release of hydrocarbons from equipment other than that in which the event occurs.

b. Accidents that occur external to the process on a production platform are not self-propagating unless they affect the process or start a fire. If they affect the process, the safety system should shut down the process or affected part of the process. If they result in fire, the safety system should shut down all platform activity except that necessary for fire fighting. Such accidents may be caused by natural phenomenon, ship or helicopter collision, failure of tools and machinery, or mistakes by personnel. These types of accidents may be prevented or minimized through safe design of tools and machinery, safe operating procedures for personnel and equipment, and personnel training. Figure 3-1 indicates the manner in which external accidents may affect the process.

3.3 MODES OF SAFETY SYSTEM OPERATION

The operating modes of the safety system should be (a) automatic monitoring and automatic protective action if an abnormal condition indicating an undesirable event can be detected by a sensor, (b) automatic protective action if manually actuated by personnel who observe or are alerted to an unsafe condition by an alarm, and (c) continuous protection by support systems that minimize the effects of escaping hydrocarbons. The Emergency Shutdown (ESD) System is important, even on platforms that are not continuously manned, because most accidents and failures are caused by personnel. Thus, personnel may be available to actuate the ESD System.

3.4 PREMISES FOR BASIC ANALYSIS AND DESIGN

The recommended analysis and design procedures for a platform safety system are based on the following premises:

a. The process facility will be designed for safe operation in accordance with good engineering practices.

b. The safety system should provide two levels of protection to prevent or minimize the effects of an equipment failure within the process. The two levels of protection should be independent of and in addition to the control devices used in normal process operation. In general, the two levels should be provided by functionally different types of safety devices for a wider spectrum of coverage. Two identical devices would have the same characteristics and might have the same inherent weaknesses.

c. The two levels of protection should be the highest order (primary) and next highest order (secondary) available. Judgment is required to determine these two highest orders for a given situation. As an example, two levels of protection from a rupture due to overpressure might be provided by a PSH and a PSL. The PSH prevents the rupture by shutting in affected equipment before pressure becomes excessive, and

Copyright American Petroleum Institute
Provided by IHS under license with API
No reproduction or networking permitted without license from IHS

Licensee=Chevron API 22 loc/6 usr Part 1/1000001100
Not for Resale, 10/19/2006 08:01:10 MDT

the PSL shuts in affected equipment after the rupture occurs. However, a PSV is selected in lieu of the PSL because it prevents the rupture by relieving excess volumes to a safe location. Moreover, its fast response could prevent a rupture in situations where the PSH might not effect corrective action fast enough.

d. The use of proven systems analysis techniques, adapted to the production process, will determine the minimum safety requirements for a process component. If such an analysis is applied to the component as an independent unit, assuming worst case conditions of input and output, the analysis will be valid for that component in any process configuration.

e. All process components on a production platform comprise the entire process from the wellhead to the most downstream discharge point; thus, all process equipment and functions are incorporated into the safety system.

f. When fully protected process components are combined into a facility, no additional threats to safety are created. Therefore, if all process component safety devices are logically integrated into a safety system, the entire facility will be protected.

g. The analysis procedure should provide a standard method to develop a safety system and provide supporting documentation.

4. PROTECTION CONCEPTS AND SAFETY ANALYSIS

4.1 INTRODUCTION

Section 3.1 emphasizes that most threats to safety from the production process involve the release of hydrocarbons. Thus, the analysis and design of a production platform safety system should focus on preventing such releases, stopping the flow of hydrocarbons to a leak if it occurs, and minimizing the effects of hydrocarbons that are released.

Section 4.2 explains the basic concepts of protection used in the analysis. These concepts are repeated in Appendix A, as applicable to individual component analysis.

Section 4.3 discusses methods of analyzing the process and establishing design criteria for an integrated safety system covering the entire platform process. These methods are exemplified in the example analysis illustrated in Appendix E.

Section 4.4 is a step-by-step summary for performing a safety analysis in accordance with this document. It is pointed out that this method initially considers each component independently from the rest of the process, and may recommend safety devices that are not required after larger segments of the process are considered. For example, many safety devices initially considered on headers are not normally required because their safety function is performed by devices on other components.

4.2 PROTECTION CONCEPTS

The basic protection concepts used in the safety system analysis are discussed in this paragraph. Section 4.2.1 describes each undesirable event that could affect a process component and considers its cause, effect, and protective measures. Section 4.2.2 discusses safety device selection criteria. Section 4.2.3 discusses protective shut in action for isolating a process component. Section 4.2.4 discusses ignition preventing measures that can be used to minimize the possibility of combustible concentrations of hydrocarbons contacting an ignition source. Section 4.2.5 discusses protective measures to prevent accidental contact of hot surfaces by personnel. Section 4.2.6 discusses the function of the Emergency Support System (ESS). Section 4.2.7 discusses the function of other support systems.

4.2.1 Undesirable Events

An undesirable event is an adverse occurrence in a process component that poses a threat to safety. The undesirable events discussed in this paragraph are those that might develop in a process component under worst-case conditions of input and output. An undesirable event may be indicated by one or more process variables ranging out of operating limits. These abnormal operating conditions can be detected by sensors that initiate shut down action to protect the process component. Each undesirable event that can affect a process component is discussed according to the following format: (a) cause, (b) effect and detectable abnormal condition, and (c) primary and secondary protection that should prevent or react to its occurrence.

4.2.1.1 Overpressure

Overpressure is pressure in a process component in excess of the maximum allowable working pressure.

4.2.1.1.1 Cause

Overpressure can be caused by an input source that will develop pressure in excess of a process component's maximum allowable working pressure if inflow exceeds outflow. Inflow may exceed outflow if an upstream flowrate control device fails, if there are restrictions or blockage in the component's outlets, or if overflow or gas blow-by from an upstream component occurs. Overpressure can also be caused by thermal expansion of fluids within a component if heat is added while the inlets and outlets are closed.

Copyright American Petroleum Institute
Provided by IHS under license with API
No reproduction or networking permitted without license from IHS

Licensee=Chevron API 22 loc/6 usr Part 1/1000001100
Not for Resale, 10/19/2006 08:01:10 MDT

EXHIBIT 78

Re: Follow up question from January 22 meeting

From: Zach Corrigan <zcorrigan@fwwatch.org>

To: "Hauser, William" <william.hauser@mms.gov>

Date: Tue, 02 Mar 2010 16:05:17 -0600

Hi Mr. Hauser. We differ with MMS's interpretation in that we believe that risers, if no other components listed below, also fall under Subpart I, given that the PVP program regs expressly puts them there. We are very happy with the announcement today about the Atlantis. We will be following up with a letter or other communications detailing our take on this situation, but in the meantime, thank you.

Zach Corrigan
Senior Staff Attorney
Food & Water Watch
ph: 202-683-2451
fx: 202-683-2452
zcorrigan@fwwatch.org
www.foodandwaterwatch.org

PRIVILEGE AND CONFIDENTIALITY NOTICE
This message is intended only for the use of the individual or entity to which it is addressed and may contain information that is privileged, confidential and exempt from disclosure under applicable law as attorney client and work-product confidential or otherwise confidential communications. If the reader of this message is not the intended recipient, you are hereby notified that any dissemination, distribution, or copying of this communication or other use of a transmission received in error is strictly prohibited. If you have received this transmission in error, immediately notify us at the above telephone number.

On Feb 17, 2010, at 12:04 PM, Hauser, William wrote:

Zach, This is the follow up regarding your questions from our January 22 meeting with you. Below is a table that responds to your questions about where various components are addressed in our regulations.

Component	**Applicable Subpart(s)**
Subsea systems	Shared between Subparts E, H, and J
Wellheads	Specifications for wellheads are in Subpart H Additional requirements in Subparts D and E
Trees	Shared between Subparts E and H
Manifolds	Subsea manifolds shared between Subparts H and J Surface manifold is strictly Subpart H
Pipelines/flowlines	Shared between Subparts H and J
Controls	Shared between Subparts E, H and J
Umbilical	Shared between Subparts E, H and J
Risers	Shared between Subparts H and J
Installation	• Wellheads and trees are Subparts D and E respectively • Subsea manifolds, subsea flowlines, pipelines umbilicals and risers are Subpart J

Note: The areas above referring to Subpart H correspond to the Safety System review of those components.

Sorry about the delay in responding to your email, my response got buried in the snow along with me. Please call or email if you have any other questions.

Bill Hauser
Chief, Regulations and Standards Branch
703 787-1613
william.hauser@mms.gov

-----Original Message-----
From: Zach Corrigan [mailto:zcorrigan@fwwatch.org]
Sent: Wednesday, February 03, 2010 10:55 AM
To: Trosclair, Troy
Subject: follow up question from January 22 meeting

Mr. Trosclair: Again thanks for meeting with us on January 22, 2009.
i have a question for you, following up on the meeting regarding MMS's procedures for approving platforms. i wanted to make sure I understood which structure components fall under Subpart H versus Subpart J of your regulations.

So, am I clear that all of the following sectors would fall under Subpart J:

subsea systems
wellheads
trees
manifolds
pipelines/flowlines
controls
umbilical
risers
installation

Thanks, Zach

Zach Corrigan
Food & Water Watch
ph: 202-683-2451
fx: 202-683-2452
zcorrigan@fwwatch.org
www.foodandwaterwatch.org

EXHIBIT 79

United States Department of the Interior

MINERALS MANAGEMENT SERVICE
Gulf of Mexico OCS Region
Houma District
3804 Country Drive
Post Office Box 760
Bourg, Louisiana 70343-0760

In Reply Refer To: MS 5260

MAY 0 3 2007

Mr. Dennis Sustala
BP Exploration and Production, Inc.
200 Westlake Park Blvd.
Room 1075-WL4
Houston, Texas 77079

Gentlemen:

Your letters dated February 23, 2005, February 25, 2005, August 1, 2005, October 11, 2005, May 4, 2006, May 8, 2006, May 23, 2006, and September 19, 2006 request approval to install production equipment with all attendant controls on Lease OCS-G 23579 (RUE), Platform A (Atlantis), Green Canyon Block 787. With these letters you enclosed Safety Analysis Function Evaluation (SAFE) charts, flow schematics, fire-fighting and personnel safety equipment layout drawings, equipment arrangement drawings and electrical area classification drawings.

Pursuant to 30 CFR 250.802(e), we hereby approve the following:

1. Design and installation of the production equipment and subsea systems with all attendant controls.

2. Alternate methods of protection referenced in API RP 14 C and included in your SAFE charts.

3. Fire-fighting and personnel safety equipment layout drawings.

4. Equipment layout drawings.

5. Electrical area classification drawings.

Pursuant to 30 CFR 250.142, we hereby approve departures from the required use of Safety Analysis Checklist (SAC) references as outlined in API RP 14 C. All "NOTES/DEPARTURES" listed in the subject platform Safety Analysis Function Evaluation (SAFE) chart (Revision 5) are deemed acceptable.

TAKE PRIDE® IN AMERICA

Redacted

Pursuant to 30 CFR 250.142, your request to allow a five (5) second delay in the activation of the PSH's during the start-up of large turbine compressors (Bounce Time) is hereby **denied**. According to 30 CFR Part 250.803 (c) (1), "Surface or subsurface safety devices shall not be bypassed or blocked out of service unless they are temporarily out of service for startup, maintenance, or testing procedures." These PSH sensors are allowed to be bypassed during startup procedures, however at no time shall the pressure in these systems exceed the Maximum Allowable Working Pressure (MAWP) of the piping and equipment systems.

The following departures from the regulations were proposed in BP Exploration and Production Inc.'s Deep Water Operations Plan (DWOP) for the Atlantis PQ and approved by letter dated June 15, 2005 in order to facilitate the above-mentioned production operations:

- Depart from the required 45-second closure time for the USV. The closure time shall not exceed 20 minutes in the event of a platform ESD or a Flowline PSL.
- Departure from the monthly testing requirements of the surface safety devices (PSHLs and LSHLs). The electronic pressure transmitters and the electronic level transmitters/switches shall be tested on a quarterly basis.
- Allow SCSSV to be tested according to the leakage rates specified in API RP 14B.
- Depart from the required 2-minute closure time for the SCSSV. The closure time shall not exceed 60 minutes in the event of a platform ESD.
- Allow monitoring for sustained casing pressure of the production annulus only.
- Testing of the USV at a quarterly frequency rather than monthly.
- Allow USV to be tested according to the leakage rates specified in API RP 14H rather than "zero leakage".
- Allow the electronic portion of the platform ESD system to be tested on a quarterly basis.

Note: the departures listed directly above are approved strictly for the operation of the subsea wells listed below.

The Atlantis Platform located on Lease OCS-G 23579 (RUE), Green Canyon Block 787, will receive bulk production from 16 Subsea Wells as well as inject water inject from four (4) subsea wells as listed below:

Block	Well Name	Block	Well Name
GC-743	DC-101 (H2O) Injector	GC-743	DC-123
GC-743	DC-102 (H2O) Injector	GC-743	DC-124
GC-743	DC-103 (H2O) Injector	GC-743	DC-131
GC-743	DC-104 (H2O) Injector	GC-743	DC-132
GC-743	DC-111	GC-743	DC-133
GC-743	DC-112	GC-743	DC-134
GC-743	DC-113	GC-743	DC-141
GC-743	DC-114	GC-743	DC-142
GC-743	DC-121	GC-743	DC-143
GC-743	DC-122	GC-743	DC-144

These wells will flow via five (5) individual 6" flow-lines onto this same platform. The surface facilities will be connected to the subsea wells by E/H (Electrical/Hydraulic) control umbilicals, umbilical termination assemblies (UTA's), and electrical and hydraulic flying leads. This control system includes wellhead chemical injection.

Through out your submittal, ample justification has been given, as well as, special precautions have been taken, to ensure that the intent of all applicable regulations are maintained. We have thoroughly reviewed your intended operating procedures and find that all departure requests to be of sound engineering practice. Therefore, approval is hereby granted with the following stipulations:

1. This office shall be notified, in writing, of the actual closure times of safety valves (USV's and SCSSV's).

2. The test frequencies proposed shall be strictly adhered to: monthly test shall be conducted once each calendar month not to exceed six weeks; quarterly test shall be conducted every third calendar month not to exceed 120 days.

3. During the monthly testing, the boarding pipeline Shutdown Valves (SDV's) associated with the subsea systems shall conform to the leakage tolerance for Surface Safety Valves as outlined in 30 CFR 250.804(a)(5). That is, if the SDV's do not operate properly or if any fluid flow is observed, the valve shall be repaired or replaced.

Application for approval of any additional facilities or other equipment modification should be submitted to this office at least 30 days prior to the date of such revision. This approval does not include any equipment or safety devices required by 30 CFR 250, Subpart J.

Redacted

Within 30 days of the date of first production, BP shall submit in writing a departure request to set the low-pressure sensors (PSL's) on pressure vessels which operate at less than 5 psi.

Production from this platform cannot commence until a preproduction inspection has been conducted by a representative of this office. You are required to notify this office, in writing, of the date of first production from this platform.

The above mentioned approvals are subject to field verification.

Sincerely,

Michael J. Saucier
District Manager
Houma District

EXHIBIT 80

Per the requirements of 30CFR250, Section 250.802(e)(5), this document certifies that the design for the Mechanical and Electrical systems for the Atlantis semi-submersible production unit, South Green Canyon Block 743 were reviewed and approved by registered professional engineers licensed in the state of Texas.

ATTACHMENT A

IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF TEXAS
HOUSTON DIVISION

UNITED STATES OF AMERICA EX REL. KENNETH W. ABBOTT; KENNETH W. ABBOTT, INDIVIDUALLY; AND FOOD & WATER WA TCH, INC.;	§	
Plaintiffs,	§	CIVIL ACTION NO. 4:09-CV-01193
v.	§	JURY DEMANDED
BP EXPLORATION AND PRODUCTION INC., ET AL.;	§	
Defendants.	§	

DECLARATION OF MARY WHITTLE

I, Mary Whittle, pursuant to the provisions of 28 U.S.C. § 1746, declare:

1. I am an attorney at law licensed to practice before the court of the State of Texas and the District of Columbia. I am counsel for Plaintiffs United States of America *ex rel.* Kenneth W. Abbott, Kenneth W. Abbott, individually, and Food and Water Watch, Inc. (collectively "Plaintiffs") in this matter. I am fully familiar with the facts stated below and submit this declaration and the attached exhibits in support of Plaintiffs' Motion for Summary Judgment. All of the statements of fact in this Declaration are true and correct according to my personal knowledge.

2. Attached hereto as Exhibit 1 is a true and correct copy of Bates Numbered Document BPEP_ABB_01597639 and 01597642, Atlantis Field, Supplemental Conservation Information Document (March 2009).

3. Attached hereto as Exhibit 2 is a true and correct copy of Bates Numbered Document BPEP_ABB_00086577, 00086583 and 00086590, Atlantis Project – Application to Design, Fabricate and Install a Platform (Sept. 2002) ("Platform Application").

4. Attached hereto as Exhibit 3 is a true and correct copy of Bates Numbered Document FWW0008511/512, Lease OCS-G 15606.

5. Attached hereto as Exhibit 4 is a true and correct copy of pages from the deposition of B. Domangue dated November 15, 2011.

6. Attached hereto as Exhibit 5 is a true and correct copy of Bates Numbered Document BPEP_ABB_00094892, the Swift Technical Services LLC–Contract for Services.

7. Attached hereto as Exhibit 6 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03455080, Organization Chart Showing Abbott's position.

8. Attached hereto as Exhibit 7 is a true and correct copy of the Bates Numbered Document ABB0015861 and 0015894, April 24, 2009 Letter to U.S. DOJ with attached Plaintiffs' Original Complaint.

9. Attached hereto as Exhibit 8 is a true and correct copy of pages from the Deposition of K. Abbott dated December 16, 2011.

10. Attached hereto as Exhibit 9 is a true and correct copy of the Bates Numbered Document BPEP_ABB_01524673, email from B. Duff to B. Naseman and W. Broman dated August 15, 2008.

11. Attached hereto as Exhibit 10 is a true and correct copy of pages from the Deposition of B. Duff dated September 12, 2011.

12. Attached hereto as Exhibit 11 is a true and correct copy of the Bates Numbered Document BPEP_ABB_01524667/4668, email from B. Duff to A. Gregg and Bill E. Naseman dated August 15, 2008.

13. Attached hereto as Exhibit 12 is a true and correct copy of pages from the Deposition of T. Curtis dated September 12, 2011.

14. Attached hereto as Exhibit 13 is a true and correct copy of the Bates Numbered Document BPEP_ABB_01521407/1409.

15. Attached hereto as Exhibit 14 is a true and correct copy of the Bates Numbered Document MUSTANG ENG 000205 and 000210, Atlantis Records Management Project Execution Plan, Document number 1440-10-AD-PR-0005.

16. Attached hereto as Exhibit 15 is a true and correct copy of pages from the Deposition of W. Naseman dated November 30, 2011.

17. Attached hereto as Exhibit 16 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03463083, 03463088, 03453108 and 03453109, BP Ombudsman Employee Concerns Program, Confidential Investigation Report, Case No: 2009-005.

18. Attached hereto as Exhibit 17 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00115572/5574, letter from Rep. Grijalva (U.S. Congress) to E. Birnbaum (MMS) dated February 24, 2010.

19. Attached hereto as Exhibit 18 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00115575, letter from MMS to Rep. Grijalva (House of Rep) dated March 26, 2010.

20. Attached hereto as Exhibit 19 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00082829/2830, letter from M. Saucier (MMS) to S. Todd (BP) dated July 21, 2010.

21. Attached hereto as Exhibit 20 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00115564/5566, letter from S. Todd (BP) to M. Saucier (MMS) dated Aug. 9, 2010.

22. Attached hereto as Exhibit 21 is a true and correct copy of pages from the Deposition of D. Sustala dated September 19, 2011.

23. Attached hereto as Exhibit 22 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00086984, letter from T. Laurendine for D. Howard, MMS, to D. Sustala, BP dated December 12, 2002.

24. Attached hereto as Exhibit 23 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00086986/6989, letter from D. Sustala, BP, to D. Howard, MMS, dated January 27, 2003.

25. Attached hereto as Exhibit 24 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00087025, email from T. Laurendine for D. Howard, MMS, to D. Sustala, dated February 25, 2003.

26. Attached hereto as Exhibit 25 is a true and correct copy of the Bates Numbered Document BPEP_ABB_04076454/6455, 04076462 and 04076464, DSME Contract dated Sept. 1, 2001, § 1.3 "Engineering and Design."

27. Attached hereto as Exhibit 26 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00087049/7050, email from T. Laurendine, MMS, to D. Sustala, BP dated January 16, 2005.

28. Attached hereto as Exhibit 27 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00087685, letter from A. Shah for Lars T. Herbst, MMS, to D. Sustala, BP, dated January 16, 2007.

29. Attached hereto as Exhibit 28 is a true and correct copy of pages from the Deposition of D. Sustala dated May 10, 2011.

30. Attached hereto as Exhibit 29 is a true and correct copy of pages from the Deposition of K. DeJohn dated September 14, 2011.

31. Attached hereto as Exhibit 30 is a true and correct copy of pages from the Deposition of S. Todd dated December 5, 2011.

32. Attached hereto as Exhibit 31 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00111486, 00111493 and 00111525, Atlantis Project Floating Systems Team Project Execution Plan.

33. Attached hereto as Exhibit 32 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00112443, email from D. Sustala, BP, and L. Pekel, ABS, dated November 26, 2002 (1:56PM).

34. Attached hereto as Exhibit 33 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00112441/2442, email from D. Sustala to L. Pekel dated November 26, 2002 (4:28PM).

35. Attached hereto as Exhibit 34 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00112440, email from D. Sustala to L. Pekel dated November 26, 2002 (4:38PM).

36. Attached hereto as Exhibit 35 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00112401/2402, email from L. Pekel to D. Sustala dated December 6, 2002 (11:53AM).

37. Attached hereto as Exhibit 36 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00112426/2427, email exchange between P. Ganguly, Millennium Technical Consultants, and D. Sustala, BP, dated November 29, 2002.

38. Attached hereto as Exhibit 37 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00112616, email from D. Sustala, BP, to P. Ganguly, Millennium Technical Consultants dated October 24, 2002.

39. Attached hereto as Exhibit 38 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00112450/2452, email from S. Kinnaman to D. Sustala dated November 22, 2002.

40. Attached hereto as Exhibit 39 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00112629/2630, email from B. Thurmond to D. Sustala dated October 23, 2002.

41. Attached hereto as Exhibit 40 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00112524/2526, email from D. Sustala to K. Jansson, GVA, dated October 24, 2002.

42. Attached hereto as Exhibit 41 is a true and correct copy of pages from the Deposition of R. Peloubet dated September 9, 2011.

43. Attached hereto as Exhibit 42 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00112627, email from D. Sustala to J. Faulker dated October 24, 2002.

44. Attached hereto as Exhibit 43 is a true and correct copy of the Bates Number Document BPEP_ABB_00112508, email from R. Phillips to D. Sustala dated October 25, 2002.

45. Attached hereto as Exhibit 44 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00112453/2454, email from D. Sustala dated November 21, 2002.

46. Attached hereto as Exhibit 45 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00110497/0499, email from D. Sustala (BP) to S. Kinnaman (Mustang) dated March 24, 2004.

47. Attached hereto as Exhibit 46 is a true and correct copy of pages from the Deposition of F. Ragan taken September 8, 2011.

48. Attached hereto as Exhibit 47 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00110014/0015, email from F. Ragan to K. DeJohn, L. Osborn and D. Sustala dated November 12, 2005.

49. Attached hereto as Exhibit 48 is a true and correct copy of the pages from the Deposition of G. Malone taken August 30, 2011.

50. Attached hereto as Exhibit 49 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03493064, email from C. Ward to K. Smith (Hull arrives in Corpus Christi from Korea on May 25, 2005; integration ran from May 2005 through August 2006) dated August 30, 2010.

51. Attached hereto as Exhibit 50 is a true and correct copy of pages from the Deposition of J. Upchurch taken October 4, 2011.

52. Attached hereto as Exhibit 51 is a true and correct copy of pages from the Deposition of R. Berger taken September 15, 2011.

53. Attached hereto as Exhibit 52 is a true and correct copy of the Bates Numbered Document BPEP_ABB_01524687/4688, email from B. Naseman to A. Taylor attaching FST Handover Schedule dated March 5, 2008.

54. Attached hereto as Exhibit 53 is a true and correct copy of pages from the Deposition of L. Osborn taken September 21, 2011.

55. Attached hereto as Exhibit 54 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00115909 and BPEP_ABB_00115917, Specification for Data and Information Handover from Projects into Operations, 1400-85-IM-SP-8700.

56. Attached hereto as Exhibit 55 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03500136 and BPEP_ABB_03500143, Atlantis Engineering Workflow Process.

57. Attached hereto as Exhibit 56 is a true and correct copy of the Bates Numbered Document BPEP_ABB_01631097, BPEP_ABB_01631100 and BPEP_ABB_01631106, Document Control Procedure, ssproj-10-PCPR-000001.

58. Attached hereto as Exhibit 57 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03505121 and BPEP_ABB_03505126, Contractor Document Control Procedure, 1400-10-AD-PR-0219.

59. Attached hereto as Exhibit 58 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03505155 and BPEP_ABB_03505159/5160, MEI Document Control Procedure, 1400-10-AD-PR-0214.

60. Attached hereto as Exhibit 59 is a true and correct copy of the Bates Numbered Document BPEP_ABB_01453338 and BPEP_ABB_01453359/3374, Project Orientation and Procedures Manual, 1440-21-POPM-PR-0001.

61. Attached hereto as Exhibit 60 is a true and correct copy of the Bates Numbered Document MUSTANG ENG 000001, MUSTANG ENG 000072 and MUSTANG ENG 000090, Topsides Design Engineering and Project Services Contract, Ex. A "Scope of Work," Section 2.3.4.1.

62. Attached hereto as Exhibit 61 is a true and correct copy of the Bates Numbered Document T-USA 000001 and T-USA 000056, Well Systems Integrations and Design Services Engineering Contract, Ex. A "Scope of Work," Section 11.6.

63. Attached hereto as Exhibit 62 is a true and correct copy of pages from the Deposition of R. Malone taken September 13, 2011.

64. Attached hereto as Exhibit 63 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03534372/4379, Finance Memo.

65. Attached hereto as Exhibit 64 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03534380, BPEP_ABB_03534382, BPEP_ABB_03534384, BPEP_ABB_03534386, BPEP_ABB_03534388, BPEP_ABB_03534390 and BPEP_ABB_03534392, GoM Atlantis South Supplementary FM and Atlantis Phase 2 Strategy.

66. Attached hereto as Exhibit 65 is a true and correct copy of the Atlantis South Supplement Cost Estimate Summary previously marked as Discovery Exhibit No. 347 in this case.

67. Attached hereto as Exhibit 66 is a true and correct copy of pages from the Deposition of W. Naseman taken November 30, 2011.

68. Attached hereto as Exhibit 67 is a true and correct copy of Bates Numbered Document BPEP_ABB_00091459, email from B. Naseman to W. Broman and B. Duff dated April 25, 2008.

69. Attached hereto as Exhibit 68 is a true and correct copy of the Bates Numbered Document BPEP_ABB_01519199/9200, email from B. Duff to A. Gregg, M. Garland and T. Curtis dated May 6, 2008.

70. Attached hereto as Exhibit 69 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00089380, email exchange from G. Imm to R. Berger dated May 13, 2008.

71. Attached hereto as Exhibit 70 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00115759/5760, email from R. Peloubet to S. Todd dated April 20, 2010.

72. Attached hereto as Exhibit 71 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03482184/2185, email from N. Oza (BP) to S. Berg (Technip) dated July 22, 2008.

73. Attached hereto as Exhibit 72 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03505962/5963, email from L. Osborn (Mustang) to M. Garland (BP) dated May 12, 2009.

74. Attached hereto as Exhibit 73 is a true and correct copy of pages from the Deposition of S. Todd taken May 9, 2011.

75. Attached hereto as Exhibit 74 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00115609 and BPEP_ABB_00115620, email from S. Todd (BP) to B. Domangue (MMS), dated July 3, 2010 (with Power Point presentation attached stating that BP followed its Specification for Handover).

76. Attached hereto as Exhibit 75 is a true and correct copy of the Bates Numbered Document BPEP_ABB_01622474. Email from B. Domangue to D. Sustala dated August 20, 2010.

77. Attached hereto as Exhibit 76 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00082845/2846, email from S. Todd (BP) to B. Domangue dated August 25, 2010.

78. Attached hereto as Exhibit 77 is a true and correct copy of the Title page and pages 7-8 of API RP 14C (Sec. 3.2 and 3.4(e)).

79. Attached hereto as Exhibit 78 is a true and correct copy of Bates Numbered Document FWW0018028/18029, email from W. Hauser to Z. Corrigan dated February 17, 2010.

80. Attached hereto as Exhibit 79 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00085724/5727, letter from B. Domangue, MMS, to D. Sustala, BP, dated May 3, 2007.

81. Attached hereto as Exhibit 80 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00085234, Professional Engineering Statement (Item 5).

82. Attached hereto as Exhibit 81 is a true and correct copy of the Bates Numbered Document BPEP_ABB_01598219/8220, letter from D. Sustala, BP, to Michael Saucier dated February 23, 2005.

83. Attached hereto as Exhibit 82 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00084533/4534, letter from D. Sustala to M. Saucier dated February 25, 2005.

84. Attached hereto as Exhibit 83 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00084932/4933, letter from D. Sustala to M. Saucier dated August 1, 2005.

85. Attached hereto as Exhibit 84 is a true and correct copy of *The Professional Engineering* (Nat'l So. Prof. Eng. July 2007).

86. Attached hereto as Exhibit 85 is a true and correct copy of Bates Numbered Document BPEP_ABB_00082852/2854, email from B. Domangue (MMS) to S. Todd (BP) dated August 31, 2010.

87. Attached hereto as Exhibit 86 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00110518/0519, email from R. Phillips to D. Sustala, J. Hart and L. Osborn dated January 29, 2004.

88. Attached hereto as Exhibit 87 is a true and correct copy of pages from BP Native File Bates Numbered Document BPEP_ABB_00854373 (Title Page and Page 29 of 35), System Certification Package, 1440-35-SB-SP-3033_ATS_SIC_Rev0.doc (contained within TS Subsea Control System 956, Document Number 1440-20-CM-PR-956-8001).

89. Attached hereto as Exhibit 88 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00110497/0499, email from D. Sustala (BP) to S. Kinnaman (Mustang) dated March 24, 2004.

90. Attached hereto as Exhibit 89 is a true and correct copy of the Bates Numbered Document BPEP_ABB_05211191/1193, email from D. Sustala (BP) to A. Laplante (BP) dated March 25, 2004.

91. Attached hereto as Exhibit 90 is a true and correct copy of the Bates Numbered Document T-USA 001407 and T-USA 001419, BP Well Integration and Design Engineering Atlantis Sealing Plan § 3.3.

92. Attached hereto as Exhibit 91 is a true and correct copy of pages from the deposition of D. Elmer dated September 14, 2011.

93. Attached hereto as Exhibit 92 is a true and correct copy of pages from the Deposition of G. Stevick taken December 20, 2011.

94. Attached hereto as Exhibit 93 is a true and correct copy of Bates Numbered Document FWW0008573 and FWW0008620, Site-Specific Environmental Assessment (SEA) No. N-7646 at E-2 (April 17, 2003).

95. Attached hereto as Exhibit 94 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03534711 and BPEP_ABB_03534784, DOCD, Environmental Impact Statement § 8.3.

96. Attached hereto as Exhibit 95 is a true and correct copy of pages from the Deposition of R. Pierce taken December 1, 2011.

97. Attached hereto as Exhibit 96 is a true and correct copy of the Bates Numbered Document BPEP_ABB_04147184 and BPEP_ABB_04147199, Gulf of Mexico SPU-Atlantis, S&O Audit, 30 November 2009 to 11 December 2009 – Entity Verifiable Findings, Audit 0935.

98. Attached hereto as Exhibit 97 is a true and correct copy of BPEP_ABB_04147214 and BPEP_ABB_04147241, Audit Report, Safety & Operations Audit, Final Report 13 January 2010.

99. Attached hereto as Exhibit 98 is a true and correct copy of the Bates Numbered Document BPEP_ABB_02828782/8789 and BPEP_ABB_02828796, Worley Parsons Atlantis PSV-41003 Sizing Check Calculation, August 19, 2010.

100. Attached hereto as Exhibit 99 is a true and correct copy of the Bates Numbered Document BPEP_ABB_04135740, Root Cause Failure Analysis Report – Gas Turbine Generator ZAN-5000 Shutdown.

101. Attached hereto as Exhibit 100 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03514575, email from F. Ragan to W. Dean (Technip) dated February 11, 2008.

102. Attached hereto as Exhibit 101 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03502155/2156, email from S. Maxwell to R. Oneta dated September 22, 2007.

103. Attached hereto as Exhibit 102 is a true and correct copy of pages from the Deposition of S. Cotton taken December 14, 2011.

104. Attached hereto as Exhibit 103 is a true and correct copy of BP Native File Bates Numbered Document BPEP_ABB_02832882, Piping and Instrument Diagram, Pipeline Pumps (Drawing No. 1440-20-PI-DG-4389).

105. Attached hereto as Exhibit 104 is a true and correct copy of Bates Numbered Document BPEP_ABB_03579591/9592, email from R. Berger to B. Broman dated August 26, 2008.

106. Attached hereto as Exhibit 105 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03359747/9757, Safety Shutdown Logic Drawings, BP Document Numbers 1440-35-SB-DG-3021 through 3030.

107. Attached hereto as Exhibit 106 is a true and correct copy of pages from the Deposition of K. Angel taken December 14, 2011.

108. Attached hereto as Exhibit 107 is a true and correct copy of List of BP Controls Malfunctions Documents and Listed Documentation.

109. Attached hereto as Exhibit 108 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03512831, email from B. Young to N. Oza and R. Berger dated January 3, 2008.

110. Attached hereto as Exhibit 109 is a true and correct copy of the Bates Numbered Document BPEP_ABB_04125309, email from N. Oza re: FW Subsea vavles (sic) opening without requested, dated January 7, 2008.

111. Attached hereto as Exhibit 110 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03559672/9673, email from W. Broman to N. Oza dated January 7, 2008.

112. Attached hereto as Exhibit 111 is a true and correct copy of pages from the Deposition of R. Berger taken November 2, 2011.

113. Attached hereto as Exhibit 112 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03626944/6945, email from J. Little re: DC122 Shut in, dated August 10, 2008.

114. Attached hereto as Exhibit 113 is a true and correct copy of the Bates Numbered Document BPEP_ABB_02895422/5423, Functional Design Specification for the Master Control Station, Subsea Control Unit, BP Doc. No. 1440-35-SB-SP-0030.

115. Attached hereto as Exhibit 114 is a true and correct copy of the Bates Numbered Document BPEP_ABB_02408632, Subsea Control System Cause and Effects, BP Doc. No. 1440-35-SB-RP-0114.

116. Attached hereto as Exhibit 115 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03244795, Master Control Station Site Integration Test, BP Doc. No. 1440-35-SB-PR-0130.

117. Attached hereto as Exhibit 116 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00087921 (and internal pages 10-19 through 10-22), Preliminary Deepwater Operations Plan, dated June 21, 2004.

118. Attached hereto as Exhibit 117 is a true and correct copy of pages from the Deposition of L. Holzenthal taken December 13, 2011.

119. Attached hereto as Exhibit 118 is a true and correct copy of the Bates Numbered Document BPEP_ABB_04135705/5709, email from S. Cotton to K. DeJohn and F. Ragan re: FW: Atlantis update, dated August 5, 2008.

120. Attached hereto as Exhibit 119 is a true and correct copy of the Bates Numbered Document BPEP_ABB_04135730, email from S. Cotton to Waterhouse re: Subsea Comms MOC-08-218 Hazard Review, dated October 28, 2008.

121. Attached hereto as Exhibit 120 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03498616/8618, email from R. Peloubet re: Operations Managers Meeting and Higher dated January 22, 2007.

122. Attached hereto as Exhibit 121 is a true and correct copy of pages from the Deposition of W. Castell dated June 22, 2011.

123. Attached hereto as Exhibit 122 is a true and correct copy of pages from the Deposition of G. Cowlam dated June 7, 2011.

124. Attached hereto as Exhibit 123 is a true and correct copy of pages from the Deposition of S. Newman dated September 30, 2011.

125. Attached hereto as Exhibit 124 is a true and correct copy of pages from the Deposition of P. Campbell dated July 12, 2011.

126. Attached hereto as Exhibit 125 is a true and correct copy of pages from the Deposition of R. Turlak dated September 28, 2011.

I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct.

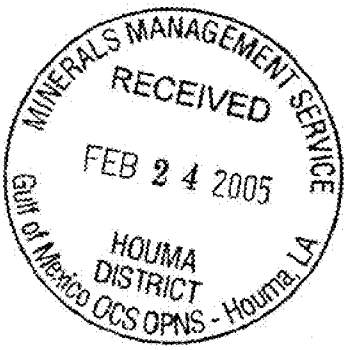
Executed this 4th day of April 2012, in Washington, D.C.

/s/ Mary Whittle
Mary Whittle

EXHIBIT 81

BP Letter 1

bp



February 23, 2005

Mr. Michael Saucier
District Supervisor
Minerals Management Service
Houma District
3804 Country Drive
Houma, Louisiana 70343

Attention: Mr. Bryan A. Domangue
Production Engineer

RE: Production Safety System Application
Atlantis Project
Green Canyon Block 787, Platform A, OCSG-23579
Offshore, Louisiana, Gulf of Mexico

Gentlemen:

In accordance with 30 CFR Subpart H, Parts 250.800 – 250.807, BP Exploration & Production Inc., hereby submits, in duplicate, a proposed Production Safety System Application for production facilities associated with GC787, Platform A, OCS-G 23579, Offshore, Louisiana.

This submission contains Safety Analysis Flow Diagrams and Safety Analysis Function Evaluation (SAFE) Charts prepared according to guidelines found in API RP14C. In addition, we have included Piping and Instrument Diagrams for your review. All remaining documentation required by 30 CFR 250.802 (e) will be submitted under separate cover.

BP certifies that that the designs for the mechanical and electrical systems to be installed were completed under the supervision of registered professional engineers. Maintenance of the system will be by qualified personnel. All design data shall be kept at BP's Houston, Texas office.

Developmental activities for the Atlantis Project include drilling and completion of subsea wells with surface locations in Green Canyon Block 743 and the installation of a semi-submersible unit as a floating OCS production and quarters (PQ) facility in Green Canyon Block 787. Additional details concerning the project may also be found in the PDWOP previously submitted to your office on June 24, 2004.

On or about September 1, 2005, the PQ will be transported from our integration site in Corpus Christi, Texas to the installation site in GC787. Production is expected to commence on or about May 12, 2006. We will make arrangements with your office to conduct a walk-through inspection at the integration site prior to moving the PQ to its final location and again at GC787 prior to actual production startup.

We have attached a list of requests for waivers, exceptions, and/ or alternate means of compliance that are applicable to the production and facility systems. Requests submitted and discussed as part of the PDWOP review process and related items previously submitted have

been resubmitted with this application. We have included a separate section containing a few new departure requests. This application contains the following attachments:

Attachment A
Summary List of Departure Requests from the Atlantis PDWOP of June 24, 2004. The requests have been updated as needed.

Attachment B
Revised Table of Production Shutdown Timing based on a meeting with the MMS on October 27, 2004.

Attachment C
List of New Departure Requests

Attachment D
Responses to Questions from the MMS per PDWOP review originally emailed September 2, 2004. The responses have been updated with additional information as appropriate.

Should you have any questions or requests for additional information, please contact me at (281) 366-0898 or by email at sustaldr@bpcom.

Sincerely,

Dennis Sustala
Atlantis Regulatory Compliance Coordinator

CC: Mr. Mike Conner
Chief - Technical Assessment & Operations Support Section

Production Safety System Application File

EXHIBIT 82

bp

February 25, 2005

Mr. Michael Saucier
District Supervisor
Minerals Management Service
Houma District
3804 Country Drive
Houma, Louisiana 70343

Attention: Mr. Bryan A. Domangue
Production Engineer

RE: Production Safety System Application
Atlantis Project
Green Canyon Block 787, Platform A, OCSG-23579
Offshore, Louisiana, Gulf of Mexico

Gentlemen:

In accordance with 30 CFR Subpart H, Parts 250.800 – 250.807, BP Exploration & Production Inc., hereby submits, in duplicate, a proposed Production Safety System Application for production facilities associated with GC787, Platform A, OCS-G 23579, Offshore, Louisiana.

This submission contains Safety Analysis Flow Diagrams and Safety Analysis Function Evaluation (SAFE) Charts prepared according to guidelines found in API RP14C. In addition, we have included Piping and Instrument Diagrams for your review. All remaining documentation required by 30 CFR 250.802 (e) will be submitted under separate cover.

BP certifies that that the designs for the mechanical and electrical systems to be installed were completed under the supervision of registered professional engineers. Maintenance of the system will be by qualified personnel. All design data shall be kept at BP's Houston, Texas office.

Developmental activities for the Atlantis Project include drilling and completion of subsea wells with surface locations in Green Canyon Block 743 and the installation of a semi-submersible unit as a floating OCS production and quarters (PQ) facility in Green Canyon Block 787. Additional details concerning the project may also be found in the PDWOP previously submitted to your office on June 24, 2004.

On or about September 1, 2005, the PQ will be transported from our integration site in Corpus Christi, Texas to the installation site in GC787. Production is expected to commence on or about May 12, 2006. We will make arrangements with your office to conduct a walk-through inspection at the integration site prior to moving the PQ to its final location and again at GC787 prior to actual production startup.

We have attached a list of requests for waivers, exceptions, and/ or alternate means of compliance that are applicable to the production and facility systems. Requests submitted and discussed as part of the PDWOP review process and related items previously submitted have

Redacted

been resubmitted with this application. We have included a separate section containing a few new departure requests. This application contains the following attachments:

Attachment A
Summary List of Departure Requests from the Atlantis PDWOP of June 24, 2004.
The requests have been updated as needed.

Attachment B
Revised Table of Production Shutdown Timing based on a meeting with the MMS on October 27, 2004.

Attachment C
List of New Departure Requests

Attachment D
Responses to Questions from the MMS per PDWOP review originally emailed September 2, 2004. The responses have been updated with additional information as appropriate.

Should you have any questions or requests for additional information, please contact me at (281) 366-0898 or by email at sustaldr@bpcom.

Sincerely,

Dennis Sustala
Atlantis Regulatory Compliance Coordinator

CC: Mr. Mike Conner
Chief - Technical Assessment & Operations Support Section

Production Safety System Application File

Redacted

EXHIBIT 83

bp

August 1, 2005

Mr. Michael Saucier
District Supervisor
Minerals Management Service
Houma District
3804 Country Drive
Houma, Louisiana 70343

Attention: Mr. Bryan A. Domangue
Production Engineer

RE: Production Safety System Application – Volume II
Atlantis Project
Green Canyon Block 787, Platform A, OCSG-23579
Offshore, Louisiana, Gulf of Mexico

Gentlemen,

On February 25, 2005, in accordance with 30 CFR Subpart H, Parts 250.800 – 250.807, BP Exploration & Production Inc., submitted duplicate copies of Volume 1 of a proposed Production Safety System Application for production facilities associated with GC787, Platform A, OCS-G 23579, Offshore, Louisiana.

Volume 1 contained Production Safety Analysis Flow Diagrams and Safety Analysis Function Evaluation (SAFE) Charts prepared according to guidelines found in API RP14C. In addition, we included Piping and Instrument Diagrams for your review.

Volume 2 included with this submission contains duplicate copies of all remaining documentation required by 30 CFR 250.802 (e). Specifically, Volume 2 contains the following additional information:

1. Layouts
    a. Topside Layouts
    b. Hull Layouts
2. Safety Plans
3. Electrical Data
    a. Write-up Information
    b. Topside One-Lines
    c. Hull One-Lines
    d. Topside Hazardous Area Classification Plans
    e. Hull Hazardous Area Classification Plans
4. Firefighting System
    a. Write-up
    b. Topside Firewater P&IDS
    c. Hull Firewater P&IDS
5. Professional Engineering Statement

In addition to the normal sized drawings, we have included a set of large-sized documents for your review.

BP certifies that that the designs for the mechanical and electrical systems to be installed were completed under the supervision of registered professional engineers. Maintenance of the system will be by qualified personnel. All design data shall be kept at BP's Houston, Texas office.

Our current schedule proposes that on or about November 1, 2005, the PQ will be transported from our integration site in Corpus Christi, Texas to the installation site in GC787. Production is expected to commence during summer 2006. We will make arrangements with your office to conduct a walk-through inspection at the integration site prior to moving the PQ to its final location and again at GC787 prior to actual production startup.

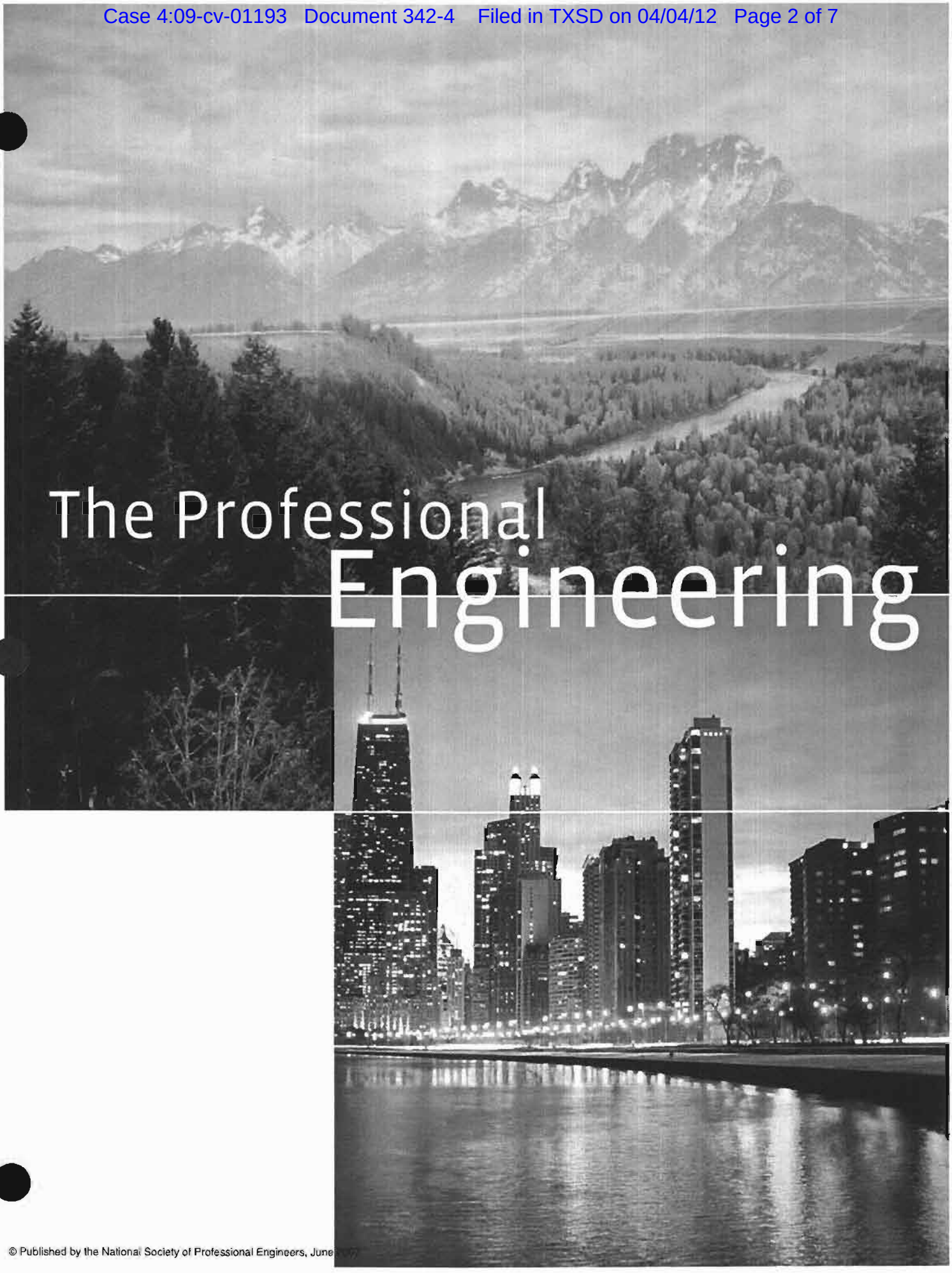
Should you have any questions or requests for additional information, please contact me at (281) 366-0898 or by email at sustaldr@bpcom. My cell phone number is (713) 865-6824.

Sincerely,

Dennis Sustala
Atlantis Regulatory Compliance Coordinator
BP Exploration & Production Inc.
200 Westlake Park Blvd.
Houston, Texas 77079

cc: Production Safety System Application File

EXHIBIT 84



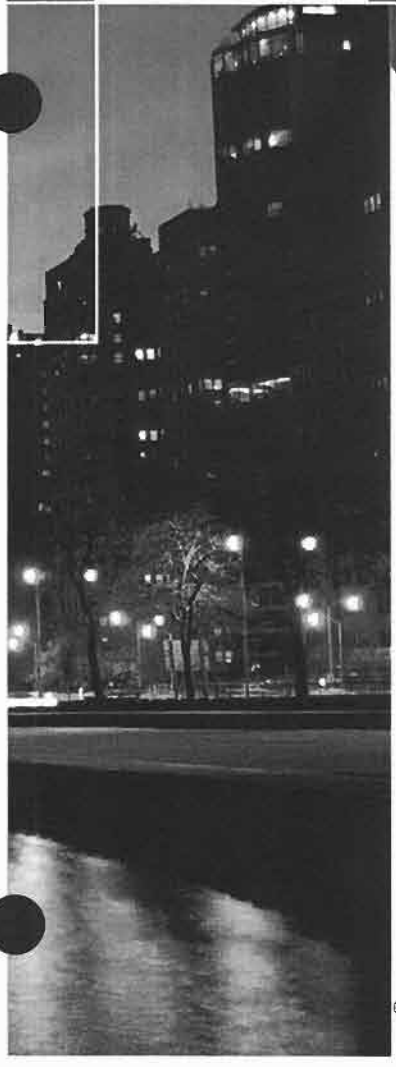
The Professional Engineering

© Published by the National Society of Professional Engineers, June 2007

From humble beginnings in a Western outpost, licensed professional engineers have spent the past 100 years building a reputation for competence, integrity, and service in the public interest.

BY DOUG McGUIRT

CENTURY



Engineering licensure had its beginnings in Wyoming when the Wild West was slowly growing tamer. Clarence Johnston, upon accepting the position of state engineer in 1903, was immediately confronted by the unruly nature of engineering and land surveying in this vast, largely undeveloped state where hungry prospectors and developers—including none other than "Buffalo" Bill Cody—were rushing to gain access to state water for irrigation purposes.

To gain access to state water in Clarence Johnston's Wyoming, the law required the filing of an application, complete with a map outlining the streams, canals, and reservoirs to be used for irrigation. From his bureaucratic position, Johnston soon realized that many untrained and unqualified individuals—lawyers, notaries, and assorted others—were performing the work of engineers and surveyors. This led to inaccurate records and was undoubtedly the source of a great deal of frustration for Johnston and his staff, who were charged with supervising the state's water distribution. Something, they decided, must be done in the form of legislation to regulate just who would be able to represent themselves to the public as an "engineer" or "land surveyor." It was in this manner that Johnston found himself in the unlikely position of founding a licensed profession.

The existence of laws dealing with the practice of engineering goes back to ancient times. In fact, the famous code of the Babylonian ruler Hammurabi (c. 1800 BC) applied the "eye for an eye" policy toward engineering:

"If a builder erect a house for a man and do not make its construction firm, and the house which he built collapse and cause the death of the owner of the house, that builder shall be put to death. If it cause the death of the son of the owner of the house, they shall put to death the son of the builder."

Of course, Hammurabi's code, harsh as it was, did not punish unlicensed practitioners—provided their work did not kill anyone. The concept of legislation restricting a profession to licensed professionals can be traced back through historical records to a decree made by King

© Published by the National Society of Professional Engineers, June 2007

Roger of Normandy in AD 1140 requiring doctors to present proof of competency before being allowed to practice on the public. Much like today, professional competency was determined by passage of an examination and certification by a group of peers.

In the U.S., the individual states bear the responsibility for regulating the professions, as outlined in the Tenth Amendment of the Constitution and reinforced by the Supreme Court in *Watson v. Maryland* (1910):

"It is too well settled to require discussion at this day that the police power of the States extend to the regulation of certain trades and callings, particularly those which closely concern the public health."

Watson v. Maryland addressed the licensing of physicians, who—along with lawyers and dentists—preceded engineers in organizing themselves as licensed professionals, despite the fact that engineers typically faced more stringent education requirements than most professions.

Prior to licensure, engineers had captivated the imagination of the American public with a number of staggering achievements. In 1869, the final spike was driven in the Transcontinental Railroad, uniting California with the east and putting the exclamation point on the nation's westward expansion. On a September evening in 1882, Thomas Edison lit up several blocks of lower Manhattan with the first version of an electric grid. The following year, the Brooklyn Bridge opened to the public. The first decade of the 20th century saw the flight of the Wright brothers and Ford's Model T. American engineers were changing the world, but questions remained: For one thing, what separates a professional engineer from the untrained and unqualified?

In 1907, the Wyoming Legislature was presented with a bill written by Clarence Johnston and several colleagues. The bill required registration for those who would represent themselves to the public as an engineer or land surveyor and created a state board of examiners for the profession.

Not surprisingly, the proposed legislation met resistance from those who had, up until then, benefited from the lack of standards. Nevertheless, the state legislature approved the bill, and it was signed into law later that year. According to state records, the first person to be licensed in the state was Charles Bellamy, a 52-year-old engineer and mineral surveyor. Some time after the law's implementation, Johnston wryly described in a letter to a friend the effects of the law: "A most astonishing change took place within a few months in the character of maps and plans filed with the applications for permits."

The following year, Louisiana passed an engineering registration law, followed by Florida and Illinois in 1915. Soon after that, Iowa, Colorado, Michigan, Idaho, Nevada, and Oregon passed legislation requiring registration and establishing state boards of examiners for engineering. As more states began to require licensure for professional engineers, a problem quickly emerged: none of the state boards accepted out-of-state licenses. The language of the new laws and the requirements for professional licensure differed greatly from one state to another.

In an attempt to address these issues, the Iowa State Board of Engineering Examiners in 1920 called for the 10 existing state boards to create "an organized and systemized method of procedure to be followed in interstate registration." The Iowa board also asked the boards to send representatives to discuss the formation of a council representing the state boards. Seven of the 10 state boards responded, and their representatives met in Chicago during

IN 1937, AN EXPLOSION AT A SCHOOL IN NEW LONDON, TEXAS, WAS ATTRIBUTED TO A GAS LEAK CAUSED BY FAULTY ENGINEERING. APPROXIMATELY 300 PEOPLE DIED.

©BETTMANN/CORBIS

© Published by the National Society of Professional Engineers

November of that year to form what would later become the National Council of Examiners for Engineering and Surveying. The purpose of the Council, as expressed in its newly written constitution, was to examine the state laws concerning registration of engineers and provide recommendations for uniformity of practice and reciprocal interstate relations within the profession.

The Council worked throughout the 1920s to coordinate reciprocal relations among the state licensing boards. By 1925, reciprocal cards issued by licensing boards were in use, and licensed engineers possessing a reciprocal card were to be accepted by all member states.

For the profession to continue progressing toward its goals of achieving interstate reciprocity and legal recognition, it was necessary that the remaining states pass licensure laws. David Steinman, P.E.—NSPE founder, NCEES past president, and renowned builder of suspension bridges—summarized the situation in a 1932 speech: "Engineers are pioneers, pathfinders, trailblazers in almost everything they do—with one exception. They have left it to the other professions to be the pioneers and trailblazers in securing professional recognition in the field of organizational and legislative activities for the advancement of the status of a profession."

Steinman, one of the profession's strongest advocates in those early years, actively promoted licensure laws as the means by which engineers could best enhance their public stature: "Engineers' registration laws are, of course, necessary for the safety of the public ... but they are also necessary for the protection of the good name of the profession."

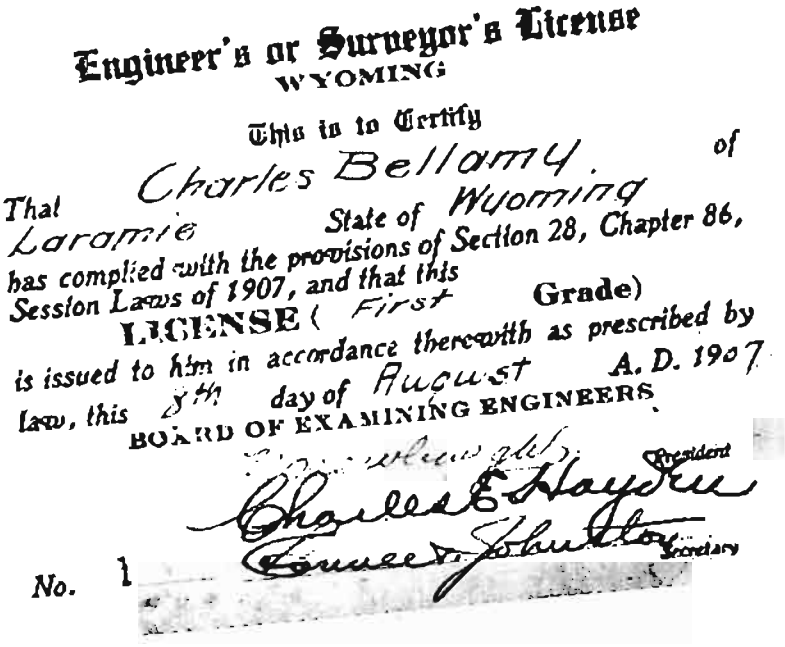
In 1932, the Council took another step in its mission when it created and ratified its Model Law. In addition to establishing uniform licensing guidelines for the state boards, the Model Law established record-keeping procedures designed to assist engineers needing to work in different states. By this time, 29 states—including Puerto Rico—had passed legislation establishing state boards regulating the engineering profession.

Two years later, Steinman called together representatives of professional engineering organizations in Connecticut, New Jersey, New York, and Pennsylvania. Meeting at the Columbia University Club in New York City, the group decided to form a national organization for licensed professional engineers that would be dedicated to the profession's nontechnical concerns. "The technical problems of civil, mechanical, electrical, mining, and chemical engineers are divergent; but the professional problems are alike," Steinman wrote in 1935.

The National Society of Professional Engineers would focus on legislative issues, public understanding and recognition for the profession, adequate compensation, ethical practice, and protecting PEs from attempts to restrict their right to practice engineering, among others. In its early years, NSPE adopted the Canons of Ethics for Engineers and Rules of Professional Conduct, founded National Engineers Week, adopted the Engineer's Creed, published the first salary survey for professional engineers, and formed the Board of Ethical Review.

For individual members, Steinman wrote, participation in the new Society was the professional engineer's opportunity "toward making engineering a better and more satisfying profession than he found it."

While representing different aspects of the profession, both NSPE and NCEES had at their core a dedication to protecting the public. In some cases, states enacted licensure laws only after disasters that were attributed to engineering oversights. California's state board of examiners was created the year after the 1928 failure of the St. Francis Dam, an event that killed more than 500 people along the Santa Clara River just north of Los Angeles. In 1937, Texas created its state board months after hundreds died in an accident where a school in New London exploded due to a natural gas leak attributed



Engineer's or Surveyor's License
WYOMING

This is to Certify

That Charles Bellamy, of Laramie State of Wyoming has complied with the provisions of Section 28, Chapter 86, Session Laws of 1907, and that this LICENSE (First Grade) is issued to him in accordance therewith as prescribed by law, this 5th day of August A. D. 1907.

BOARD OF EXAMINING ENGINEERS.

President

Secretary

No. 1

According to state records, the first person to be licensed in the state was Charles Bellamy, a 52-year-old engineer and mineral surveyor. Some time after the law's implementation, Johnston wryly described in a letter to a friend the effects of the law: "A most astonishing change took place within a few months in the character of maps and plans filed with the applications for permits."

IN 1928, THE COLLAPSE OF THE ST. FRANCIS DAM ON THE SANTA CLARA RIVER NORTH OF LOS ANGELES KILLED MORE THAN 500 PEOPLE. A YEAR LATER, CALIFORNIA CREATED A STATE LICENSING BOARD FOR ENGINEERS.

WHAT MAKES A PROFESSIONAL ENGINEER?

According to the U.S. Bureau of Labor Statistics, no fewer than 98 professions fall under the heading "Professional and Related Occupations." This list includes lawyers, physicians, architects, and engineers. It also includes astronomers, public relations specialists, choreographers, and floral designers.

Despite their many differences, one thing a surgeon has in common with a floral designer is that each is in possession of a large amount of specialized knowledge. The 11th edition of Merriam-Webster's Collegiate Dictionary agrees with this notion, describing a profession as "a calling requiring specialized knowledge and often long and intensive academic preparation."

To a person who has completed an engineering degree, this definition makes sense. But, what about a licensed PE? What separates him or her from other practicing engineers? In short, the PE has completed a number of steps that indicate a high level of commitment to professional knowledge and competency, steps that include passing an 8-hour fundamentals exam, completing four years of progressive experience in a particular engineering field, and, finally, passing another 8-hour exam testing the knowledge gained during the candidate's period of apprenticeship.

Licensure in the U.S. differs from other forms of professional certification in that it is mandated by every state government as a prerequisite for certain activities. Legally, one must be licensed to do any number of things—drive a car, perform surgery, or represent a client in court, for example. For engineers, licensure is required in order to submit plans to a public authority for approval, to work as a consultant, or to be in responsible charge of engineering work. It is a means of ensuring standards of professional competency through a rigorous combination of education, experience, and examination. After meeting these requirements, the PE is entitled to enjoy the prestige and professional advantages that come with the title.

to faulty engineering. These were just two incidents that underscored the vital role the engineering profession plays in protecting the welfare of the public, while at the same time making clear the need for standards regulating the practice.

In 1947, Montana became the last state to enact an engineering licensure law, and by 1950 the entire country, including the District of Columbia, had some form of engineering licensure law in effect. Also in 1950, NSPE adopted a policy encouraging all professional engineers to use the initials "P.E." after their names.

Despite this legislative achievement, the requirements of one board of examiners rarely matched those of another. Licensure examinations differed greatly from one state to another. Some boards required only an oral examination; others required only written exams. Many exams were written so that items could be answered successfully by those trained in logic but not necessarily in engineering; others required simply the memorization of complicated equations. In all, the exams were found, for the most part, to be deficient in establishing consistent standards for competence.

The state boards decided that the questions should be developed according to a rational method, which would require the test takers to demonstrate the ability to think like engineers. A two-part exam was proposed, the first part of which would last two-and-a-half days and cover such fundamentals as math, applied science, electrical and machine design, and engineering economics, laws, and practice. The second part, to last half a day, required examinees to pass a test covering one of five specialty engineering areas: chemical, civil, electrical, mechanical/industrial, and mining/metallurgical.

Despite some objections that the exam was too rigorous, the state boards eventually approved this examination structure with only a few modifications. Many states were instituting a new category of registration for recent engineering graduates without experience—the Engineer in Training. In recognition of this, the first part of the exam was administered to college seniors and to those interested in initiating the process of obtaining professional licensure; this was the forebear of the Fundamentals of Engineering exam.

©CORBIS. ALL RIGHTS RESERVED

© Published by the National Society of Professional Engineers

Still, it took time for nationwide uniform exams to become reality. In 1955, eight northeast states administered the same EIT exam to 277 engineering seniors; six years later, they administered a uniform professional exam. In 1963, NCEES, after conducting research into the matter of uniform exams, estimated that 3,000 applicants would likely sign up for an EIT exam and that it would cost from $3 to $5 to grade each exam.

In May 1965, 30 states administered the first FE exam, which contained 30 questions covering 10 subjects. The next year, a national uniform Principles and Practice of Engineering exam, also known as the PE exam, was made available for the first time. By 1984, all boards of examiners were administering both the FE and PE exams. About the same time, the Council's Records Program—which had been in existence in one form or another since 1932—was reorganized to provide a centralized recordkeeping service located at Council headquarters. Once professional engineers established Council records, their education, experience, and licensure history were saved in one report that could be transmitted to licensing boards for expedited comity applications. The uniform examinations and the Records Program were making comity across jurisdictions more feasible.

The past few decades have seen the FE and PE exams evolve a great deal. Originally, the FE and PE exams consisted of essay questions. Now, they are made up of multiple-choice questions developed by committees, graded by computers, and psychometrically tested for fairness and relevance. Exam items are written by licensed engineers from academia, consulting, and industry that devote their time and expertise on a volunteer basis. Extensive surveys of professionals across a range of industries are used to determine exam specifications.

The exams have evolved to include many disciplines that did not exist at the time of the first PE exam administration, disciplines that combine new technical knowledge with time-proven engineering methods to create new branches and subspecialties within the profession. Engineering licensure is now offered in 16 disciplines, with exams in emerging specialties constantly in the works.

Over the last century, the ranks of licensed professional engineers have grown from 1 to nearly 450,000, representing about a third of the nearly 1.5 million engineers working in the U.S., according to the Bureau of Labor Statistics. These professional engineers have brought us the conveniences of modern life, and there is little in the built environment that is not backed by the signature and seal of a PE.

In the next 100 years, professional engineers will continue solving society's technical problems and leading the way on projects as inspiring as the Apollo program and as crucial as clean water supply and distribution. While it is uncertain what those advances will be, professional engineers will, undoubtedly, carry them out with the same high standards and commitment to the public welfare that Clarence Johnston and Wyoming lawmakers set out to establish in 1907.

© Published by the National Society of Professional Engineers, June 2007

EXHIBIT 85

Benson, Steve S

From: Benson, Steve S
Sent: Friday, September 03, 2010 4:37 PM
To: 'Domangue, Bryan'
Cc: Todd, Simon P
Subject: RE: Atlantis Investigation - Registered Professional Engineers

Bryan –

In keeping with the regulatory requirement, the certification made in 2005 concerned the design for the mechanical and electrical systems of the production safety system. BP reaffirms the accuracy of that certification, and BP further certifies that subsequent modifications to the design of the mechanical and electrical systems for the production safety system were approved by registered professional engineers.

Since early 2008, the registered professional engineers who have taken the lead in approving design modifications have primarily been Bernie Robinett with Mustang, and Myles Butler and Dave Barton with KBR. Please note that there are some items in Books 8 and 9 that were not part of BP's application for approval of the production safety system in 2005, and therefore do not fall within the requirement for certification under 30 CFR 250.802(e)(5) (though they may be covered by other regulations and certifications where applicable).

Steve

From: Domangue, Bryan [mailto:Bryan.Domangue@boemre.gov]
Sent: Thursday, September 02, 2010 1:45 PM
To: Benson, Steve S; Ward, Charlos C
Cc: Todd, Simon P; Lan, Christy M; Wilson, Amy; Pohler, Craig; Osterman, Mark
Subject: RE: Atlantis Investigation - Registered Professional Engineers

Steve,

Just for clarification Is BP re-affirming their certification that the systems represented by the drawings contained in Books 7, 8, & 9 were approved by registered professional engineers from a mechanical and electrical standpoint? Since the original certification in 2005, has BP ensured that modifications to the mechanical and electrical systems are also approved by registered professional engineers?

Bryan A. Domangue
District Manager
Houma District
(985) 853-5894

NOTICE: This e-mail (including any attachments) is intended for the use of the individual or entity to which it is addressed. It may contain information that is privileged, confidential, or otherwise protected by applicable law. If you are not the intended recipient or the employee or agent responsible for delivery of this e-mail to the intended recipient, you are hereby notified that any dissemination, distribution, copying, or use of this e-mail or its contents is strictly prohibited. If you received this e-mail in error, please notify the sender immediately and destroy all copies.

Discovery Ex. No. **9**
Cause No.
4:09-cv-01193
Abbott v. BP

From: Benson, Steve S [mailto:Steve.Benson@bp.com]
Sent: Thursday, September 02, 2010 12:47 PM
To: Domangue, Bryan
Cc: Todd, Simon P
Subject: RE: Atlantis Investigation - Registered Professional Engineers

Bryan, in response to your query:

BP ensured that Atlantis was designed by engineers with the training, experience, and certifications necessary to construct and operate a facility that is safe, reliable, and meets all regulatory requirements. Toward that end, BP retained engineering firms with particular relevant expertise, such as Mustang Engineering to design the Atlantis topsides and Technip to design the Atlantis subsea systems.

The BP certification that you have asked about was responsive to the regulatory requirement concerning the "design for the mechanical and electrical systems." The list of engineers provided with Simon Todd's letter of August 9, 2010, are those engineers that were involved in approving the "design for the mechanical and electrical systems" of the production safety system. Importantly, while registered professional engineers in fact approved the design of those systems, as you have discovered from your review, the drawings themselves do not always identify the registered professional engineers who approved the relevant system design (s). The regulation does not require that such information be shown on the drawings, but instead requires BP to certify that "registered professional engineers" approved "the design for the mechanical and electrical systems." BP accurately made that certification.

To further assist the agency in its review of the materials that BP has supplied, attached is an organization chart for Mustang Engineering's Atlantis Project group from 2004, which includes many of the registered professional engineers on the list provided with Simon Todd's letter of August 9, 2010. As you know, Mustang Engineering completed the engineering for the Atlantis Topsides. Mustang had a number of registered professional engineers working on the Atlantis topsides engineering as shown on the attached organization chart, including 13 registered professional engineers directly on the Atlantis with another 10 registered professional engineers managing the discipline engineering and the project execution. The Mustang work process during the design included multi-disciplinary squad checks for drawings as they were developed, soliciting review and approval from various discipline engineers. Extensive multi-disciplinary HAZOP's were conducted to finalize P&IDs. Numerous multi-disciplinary 3-D model reviews were held to finalize the physical design, including layouts, piping, structural, electrical and instrumentation. All of these squad checks and reviews solicited input, comments and approval of the various topsides systems.

If you have any additional questions, please let us know.

Steve

From: Domangue, Bryan [mailto:Bryan.Domangue@boemre.gov]
Sent: Tuesday, August 31, 2010 3:00 PM
To: Todd, Simon P; Benson, Steve S; Ward, Charlos C
Cc: Saucier, Michael; Trosclair, Troy; Lan, Christy M; Wilson, Amy; Pohler, Craig; Osterman, Mark

Subject: Atlantis Investigation - Registered Professional Engineers

Simon;

30 CFR 250.802 (e) (5), states: "Certification that the design for the mechanical and electrical systems to be installed were approved by registered professional engineers. After these systems are installed, the lessee shall submit a statement to the District Manager certifying that the new installations conform to the approved designs of this subpart."

As part of this investigation, we asked BP to provide a "list of all registered professional engineers associated with the above-referenced certification".

By having this list, we believed that during our review of the drawings, we would be able to quickly determine if it had professional engineering certification.

This has proved difficult since none of the initials in the revision blocks of the drawings or the PE stamps on the drawings seem to match the professional engineers BP provided on the list.

With this said, we need to understand the engineering hierarchy and where the certification comes from. Is there an organization chart that would explain the authority for this certification? Did this authority grant someone in BP the right to initial in the client approval box of the drawings? What certification, if any, does the person who initials in the client approval have to hold? Since a large part of the drawings provided are current, we will need to understand how the organization was at start up and how it has matured since.

Bryan A. Domangue
District Manager
Houma District
(985) 853-5894

NOTICE: This e-mail (including any attachments) is intended for the use of the individual or entity to which it is addressed. It may contain information that is privileged, confidential, or otherwise protected by applicable law. If you are not the intended recipient or the employee or agent responsible for delivery of this e-mail to the intended recipient, you are hereby notified that any dissemination, distribution, copying, or use of this e-mail or its contents is strictly prohibited. If you received this e-mail in error, please notify the sender immediately and destroy all copies.

EXHIBIT 86

From: Phillips, Ralph (Mustang Engineering)
Sent: Thursday, January 29, 2004 10:06:49 AM
To: Sustala, Dennis R
CC: Hart, Jerry; Osborn, Linn (Mustang Engineering)
Subject: RE: Production System Package Deliverables

Notes in blue

Ralph E. Phillips, P.E.
Mustang Engineering Atlantis Project
713 350 7020

-----Original Message-----
From: Sustala, Dennis R [mailto:sustaldr@bp.com]
Sent: Thursday, January 22, 2004 12:15 PM
To: Phillips, Ralph (Mustang Engineering)
Subject: Production System Package Deliverables

Ralph, last summer you furnish a list of requirements and a tentative deliverables schedule for the major MMS/(ABS) documentation. For the PSS you furnished the following package list and supplied the tentative schedule that follows. Can you help me identify the engineers that I should talk with to gather each of these documents based o the schedule?

Production Safety System Package Prep June 2003 - Sept. 2003
MMS requires the following:

- Design Basis osborn
- General Arrangement Drawings divers
- PSFD osborn
- P&ID osborn
- Process Safety Flow Diagrams osborn
- Equipment list osborn
- SAFE charts ragan
- Hazardous Area Class Drawings piper
- Structural and Arch. Description of topsides grimm
- ESD system description and block diagram ragan
- One Line Diagrams piper
- Egress Routes diver
- Fire & Gas Detection and Alarm Description ragan
- Fire & Gas Detector and pull station location plans ragan
- Safety Equip Location drawings diver
- Emergency Power System Description and Drawings piper
- Registered PE certification for electrical and mechanical systems osborn

SCHEDULE OF DELIVERABLES

DOCUMENT TYPE	ABS or MM	EXPT AFC DATE
General:		
All PFDs (AFD)	MMS	6/30/03
Flare Study	MMS	2/14/03

Redacted

Discovery Ex. No. **275**
Cause No.
4:09-cv-01193
Abbott v. BP

Dispersion Study	MMS	4/17/03
P&ID Incorporating HAZOP/ Vendor Data	MMS	06/25/03
Fire & Gas Detector Location Plan	BOTH	7/14/03
Safety Equip. Location Plan	BOTH	9/1/03
Pressure Vessels VPs (last)	ABS	08/21/03
Structural :		
Calcs	BOTH	6/1/03
Primary Steel Design AFC	BOTH	06/1/03
Loadout Analysis	BOTH	5/18/03
Cranes & Monorails - Design & Calcs	BOTH	8/30/03
Handrails, etc.	BOTH	8/1/03
Flare Boom	BOTH	7/1/03
Piping:		
GA	BOTH	5/15/03
Pipe Stress Analysis of Flare System Pipe ABS	7/15/04	
Isometrics (of flare piping?)	ABS	7/15/04
Plans & Sections	BOTH	07/22/04
Pipe Specs	ABS	3/18/03
Interface drawings with Hull	ABS	09/16/04
Egress Plans	BOTH	5/15/03
Electrical:		
CCTV VPs	ABS	2/24/04
Buildings VPs	ABS	12/04/03
UPS VPs	ABS	7/15/03
PA/GA VPs	ABS	9/12/03
Load List	ABS	1/15/04
Short Circ. Study (PRELIM)	ABS	3/25/03
Short Circ. Study (FINAL)	ABS	2/2/04
Relay Coordination Study	ABS	6/1/04
Lighting Calculations	ABS	8/13/04
Block Diagrams	BOTH	6/24/04
One Line Diagrams	BOTH	9/26/03
Hazardous Area	BOTH	10/31/03
Paging & Alarm Plans	BOTH	5/20/04
Lighting Plans	BOTH	8/13/04
Cable Tray Plans	ABS	8/26/04
I & C:		
S.A.F.E. Charts AFD	MMS	7/30/03
S.A.F.E. Charts AFC	MMS	1/15/04
Logic Diagrams (AFD)	BOTH	6/20/03
Cause & Effects	BOTH	7/30/03
Interface Block Diagrams	BOTH	6/26/03
Fire & Gas Detection VPs	BOTH	9/11/03
LACT VPs	MMS	6/6/03
Sales Gas Meter VPs	MMS	8/30/03

Redacted

EXHIBIT 87

From BP Native File: BPEP_ABB_00854373

bp

bhpbilliton

Gulf of Mexico Deepwater Production

System Certification Package
TS Subsea Control System
System 956

Document Number: 1440-20-CM-PR-956-8001

Rev	Date	Document Status	Originator	Checked	Approved
0	6/10/08	As Built	James Wilson	Percy Boudreaux	
A	6/11/07	Issued for Approval	Mark Chow	Sonny Hjertman/Barry Dunn	Rickey Harrison

Document Control Number	Job Number	Area/Unit Designation	Discipline Code	Document Type	System	Sequence Number
	1440	20	CM	PR	956	8001

- ATS-XY-SC026 Oil System Shutdown (OSD)

The Topsides Emergency Support System (ESS) provides Emergency Shutdown (ESD) requests. These requests will be provided through hardwired contact output to contact input I/O modules. The SCU Controller initiates well shutdown sequences sending individual well actuated-valve closure commands to the TEM/SEM. ESS shutdown request tags include:

- XY-SC015A & B Emergency Shutdown (I/P)
- XY-SC016A & B ESD – Test (I/P)
- XY-SC017A & B All Manifolds Shutdown (I/P) – Dropped Object Shutdown
- XY-SC001 Dual Comms fault during ESD (O/P)

All valves subjected to a shutdown command are interlocked to prevent being re-opened until the upstream shutdown command has been reset. Removal of shutdown interlocks is not carried out within the SCU – they require reset action within the Topsides PSS or ESS. The SCU logic will automatically release the shutdown interlock following reset of the shutdown group within the Topsides PSS or ESS. When the cause of the shutdown command has been removed the Subsea valves will remain closed. Re-opening of Subsea valves requires operator open commands from the HMI on a valve-per-valve basis.

Steps for checking shutdown logic are as follows:

1. Test shutdown logic against Subsea Control System Cause and Effects document #1440-35-SB-RP-0114 / 3478-BSB-RA-0188 and Subsea Safety Shutdown Logic diagrams 1440-35-SB-DG-3020 through -3030

   Note: Applicable Topsides PSS shutdown initiator bits are to be forced within the PSS controller to verify serial communication through the Topsides Gateway to the SCU controller while hardwired shutdown signals from the Topsides ESS will be simulated via hard jumpers on applicable SCU discrete input module channels. SCU discrete output signals to the Topsides ESS will be measured by monitoring continuity using an ohmmeter.

2. Record test progress by highlighting and initialing applicable master test documents (i.e. Cause and Effects, Logic Diagrams, Tag List, etc.).

8.15 Verifying Human Machine Interface (HMI) Displays

Individual tags will be highlighted on the master printouts of custom graphic displays (mimics) as the points are checked. All equipment, lines and targets on each display printout shall be verified against the P&ID drawings and highlighted. When all equipment, lines and targets have been highlighted on the master display printout, COMPANY and CONTRACTOR lead representatives shall sign the printout.

8.16 OPC Communication Diagnostics Testing

System Channel and Controller Diagnostics testing will be preformed for OPC drivers. To test, fail each channel and check resultant loss of communication alarms.

EXHIBIT 88

From: Sustala, Dennis R
Sent: Wednesday, March 24, 2004 12:41 PM
To: Kinnaman, Stephen (BP) <stephen.kinnaman@mustangeng.com>
Cc: Imm, Gary <Gary.Imm@mustangeng.com>; Erb, Paul <Paul.Erb@mustangeng.com>; Homer, Steve T (BHP) <steven.t.homer@bhpbilliton.com>; Peter Ankarsward <peter.ankarsward@bpatlantis.com>; Dick Klarqvist <dick.klarqvist@bpatlantis.com>; Karl-Gustav Jansson <kg.jansson@gvaconsultants.com>; Barton, David (KBR) <david.barton@mustangeng.com>
Subject: RE: PE Waiver Request Documentation

Stephen, I fully agree with your logic supporting each of your comments below. We probably will not need to submit qualification waiver requests for DSME, as the MMS approved our waiver request to suspend the requirement for certification of GVA Structural design under the CVA process. It has been ABS' conviction thus far that the CVA design review does not involve DSME items. However, it is my understand that TH supplied MMS with DSME waiver-support information after the approval of their CVA approval - "just to be sure". At this point I do not intend to follow suit, (i.e. send in a DSME waiver support package to MMS) unless I hear a different message from ABS or the MMS requests the same information from Atlantis as they received from TH.

There is also a PE certification requirement as it applies to the mechanical and electrical design of the production safety system. This is a different certification requirement than that required under the Structural Platform Verification Plan / CVA application for which we obtained the GVA waiver.

MEI has stated that they will certify the mechanical and electrical designs of their portion of the production safety system application. This is the vast majority of items. However, there are probably several interface systems that will likely involve GVA/ DSME documents. We will need to check to see if the FST plans and diagrams represent "mechanical and electrical design", thus requiring PE certification for which we do not have a PE waiver. (TH has not yet sent in their PSS application, I'm currently requesting TH input on how they handled this particular regulatory item.)

We may find that there are no separate FST mechanical and electrical design items that are part of the PSS package. The need for the data then goes away. If however, there are items identified that require certification, then the waiver request may be the simplest and cheapest method of resolution and I'll need FST to supply me with the data in order to make a formal request.

> -----Original Message-----
> **From:** Kinnaman, Stephen
> **Sent:** Wednesday, March 24, 2004 10:16 AM
> **To:** Sustala, Dennis R
> **Cc:** Imm, Gary; Erb, Paul; Homer, Steve T (BHP); Peter Ankarsward; Dick Klarqvist; Karl-Gustav Jansson; Barton, David (KBR)
> **Subject:** RE: List of New Technology, Codes, Regulatory Waivers and Expected Sp ecial Issues for PDWOP Preparation
>
> Dear Dennis,
> A few comments regarding your request:
> One, have you checked with Thunder Horse Project to find if they have had to qualify DSME as a 'PE' entity?
> Two, has Thunder Horse Project been required to submit DSME drawings *that require a PE stamp* to MMS?
> Three, remember GVAC is the Hull's designer; DSME is responsible only for the Hull's detail design.
> Four, the Hull mechanical and electrical systems were designed by GVAC/KBR, again with DSME performing the detail design.
> Five, remember the GVAC name/logo remains on the drawings issued by DSME, so the flow of design heritage is still preserved.
>
> I think it appropriate to ask these questions before we formally submit the request you make below to DSME. As you remember, even within GVAC's compact organization, it was not a trivial matter to list their company experience, qualification and obtain the requisite engineer c.v.s. To request the same of DSME will be a major exercise, will require a substantial statement of requirements, and will in itself constitute a significant 'project'.
> As you can see, I am copying this correspondence to the BP Atlantis Site Engineering Manager, Peter Ankarsward, and ask that he, as a GVAC employee hopefully with some knowledge of our GVAC PE certification effort, can offer futher comments

on this matter. K-G Jansson, who pulled together the GVAC PE certification, has also been copied, and perhaps he, too, can comment.
We must discuss this issue in detail before any action is taken.
Best regards,
Stephen

-----Original Message-----
From: Sustala, Dennis R [mailto:sustaldr@bp.com]
Sent: Tuesday, March 23, 2004 5:44 PM
To: Kinnaman, Stephen
Subject: FW: List of New Technology, Codes, Regulatory Waivers and Expected Sp ecial Issues for PDWOP Preparation

Stephen:

Last year you sent me following note concerning new technology, codes, and a potential waiver for the PE stamp for DSME structural drawings. ABS continues to assure me that their MMS CVA requirements for design review does not include a review of DSME drawings, only GVAs. However, I must assume that even if the structural drawings are not in question, that Hull drawings that will be submitted with the Production System Application may need to include some of the DSME detail drawings and consequently the issue of PE certification may again come up in regards to design of mechanical and electrical systems for this application. (We are required for the Production Safety System to certify that the design for the mechanical and electrical systems to be installed were approved by registered professional engineers.)

Consequently, to be on the safe side, and to cover both the potential for ABS reversal of opinion and/ or ridged MMS interpretation or expectations, I'd like to obtain from DSME the same type of company history and resume data as you (?) provided for the GVA structural reviews, in the event that I need to submit a waiver request associated with PE requirements for DSME design or documents.

-----Original Message-----
From: Kinnaman, Stephen
Sent: Wednesday, April 16, 2003 9:38 AM
To: Sustala, Dennis R
Cc: Homer, Steve T (BHP); Faulkner, James (BP); Erb, Paul; Kelly, Patrick (KBR); Jansson, Karl-Gustav (GVA Consultants); Price, Mike (Mustang Engineering); Phillips, Ralph (Mustang Engineering)
Subject: List of New Technology, Codes, Regulatory Waivers and Expected Sp ecial Issues for PDWOP Preparation

Dear Dennis,
Pursuant to your request for the above information from the Atlantis Project Floating Systems Team (FST), please be advised as follows. We have reviewed the hull and mooring systems design, and have identified the following items to bring to your attention. Both specifications referenced below are GVAC-issued Atlantis Project documents:

1. New Technology: The Atlantis Hull features displacement oil storage tanks external to the Unit's Upper Hull structure (as opposed to on or inside of the Hull structure), the particulars of which may be found in 'Technical Specification', Doc. No. 1440-50-GE-SP-020-0001-01G. P&IDs for these tanks and their systems, as well as usage procedures are the responsibility of Topsides.
2. New Codes: The hull basic designer, GVAC, has employed Det Norske Veritas (DNV) Guidelines together with applicable ABS Rules, etc. for the design of the hull structure. The DNV Guidelines are documented in 'Main Structure Fabrication Specification', Doc. No. 1440-50-ST-RP-110-0012, Section 2, item 4). Note that the Design Basis for the Atlantis Project hull is the same as that used for Thunder Horse Project.
3. Regulatory Waiver: Request to MMS for departure from 30 CFR 250.901 (d) regarding Professional Engineer (PE) certification of hull structural drawings. This issue was addressed by your letter to the MMS dated 27 January 03; the request for approval of the departure was granted by MMS's letter dated 25 February. This matter may surface again in regard to the Daewoo Shipyard (DSME) detail design work; it is our understanding that the Thunder Horse Project is preparing the requisite documentation for lead DSME structural engineers in the event such a departure from the MMS PE stamp requirement is required of the builder. The Atlantis Project will be likewise ready to provide similar documentation for waiver of DSME PE certification.

We have reviewed the Atlantis PQ's mooring system design, etc., and have identified no new issues, etc. to bring to your attention. Please contact me should you have any questions or comments regarding the above assessment.
Best regards,
Stephen C. Kinnaman, P.E.
Naval Architect
Atlantis Project FST
(281) 206-6001

Attention:
This e-mail is confidential and may be protected by legal privilege. If you are not the intended recipient you should not copy it, re-transmit it, use it or disclose its contents, but should return it to the sender immediately and delete your copy from your system. Internet emails are not necessarily secure. The company does not accept responsibility for changes made to this message after it was sent.

While all reasonable care has been taken to avoid the transmission of viruses, it is the responsibility of the recipient to ensure that the onward transmission, opening or use of this message and any attachments will not adversely affect its systems or data. No responsibility is accepted by the company in this regard and the recipient should carry out such virus and other checks as it considers appropriate.

##

Attention:

This e-mail is confidential and may be protected by legal privilege.

If you are not the intended recipient you should not copy it,

re-transmit it, use it or disclose its contents, but should

return it to the sender immediately and delete your copy from

your system. Internet emails are not necessarily secure. The

company does not accept responsibility for changes made to this

message after it was sent.

While all reasonable care has been taken to avoid the transmission

of viruses, it is the responsibility of the recipient to ensure

that the onward transmission, opening or use of this message and

any attachments will not adversely affect its systems or data. No

responsibility is accepted by the company in this regard and the

recipient should carry out such virus and other checks as it

considers appropriate.

##

EXHIBIT 89

From: Sustala, Dennis R <Dennis.Sustala@bp.com>
Sent: Thursday, March 25, 2004 11:16 AM
To: Laplante, Anne-Renee <laplanta@bp.com>
Subject: RE: Production Safety System

Ah ha! now I understand - not trying to be difficult. Too many hours - too few carbs!

-----Original Message-----
From: Laplante, Anne-Renee
Sent: Thursday, March 25, 2004 7:45 AM
To: Sustala, Dennis R
Subject: RE: Production Safety System

Come on, Dennis, I don't want to go back and forth on htis. The reg says "certification that the design for the mechanical and electrical systems to be installed were approved by resgitered professional engineers", so the letter certifies just that. The reg does not mention stamping.

Anne-Renee Laplante
Regulatory Coordinator Thunder Horse Project
BP GoM Deepwater Development BU
281-366-5155
713-685-2011 (pager)

-----Original Message-----
From: Sustala, Dennis R
Sent: Wednesday, March 24, 2004 5:22 PM
To: Laplante, Anne-Renee
Subject: RE: Production Safety System

Why would the Ops Manager certify that the documents are *Not* stamped. Was it a type of waiver request - explaining why doc could or would not be stamped?

-----Original Message-----
From: Laplante, Anne-Renee
Sent: Wednesday, March 24, 2004 4:08 PM
To: Sustala, Dennis R
Subject: RE: Production Safety System

Ok, the Safe Charts and Flow Schematics are done, although they have not made it here yet. The rest is still pending. However, Schneider tells me that the way this was handled by Holstein is that there was a letter from the Ops Manager ceritifying but hat the docs were not stamped. Seems to be acceptable.

Anne-Renee Laplante
Regulatory Coordinator Thunder Horse Project
BP GoM Deepwater Development BU
281-366-5155
713-685-2011 (pager)

-----Original Message-----
From: Sustala, Dennis R

Redacted

Sent: Wednesday, March 24, 2004 2:14 PM
To: Laplante, Anne-Renee
Subject: RE: Production Safety System

I'd expect the GVA / DSME drawings for the PSS to come out of FST - Hull team.

-----Original Message-----
From: Laplante, Anne-Renee
Sent: Wednesday, March 24, 2004 1:42 PM
To: Sustala, Dennis R
Subject: RE: Production Safety System

I will check. I know that MEI worked a lot of the electrical issues and that there has been some Technip interface on some issues. Doubt there are SME?GVA. Push comes to shove, I'll try to handle exactly the same way I did with the CVA stuff. Problem is that, except for the initial meeting ages ago, Topsides have been running their own show here.

Anne-Renee Laplante
Regulatory Coordinator Thunder Horse Project
BP GoM Deepwater Development BU
281-366-5155
713-685-2011 (pager)

-----Original Message-----
From: Sustala, Dennis R
Sent: Wednesday, March 24, 2004 12:34 PM
To: Laplante, Anne-Renee
Subject: RE: Production Safety System

My guess is that all safe charts will be MEI.

I'd appreciate it if you could nose about to see if there are to be any GVA or DSME mechanical/electrical design elements that are to be included in the PSS application - if so, the burning question is how are they going to handle the PE certification requirement for the non- MEI items? Also - if anyone has a list of the items (drawing Nos) that TH expects to submit - then this would also be useful at this point.

-----Original Message-----
From: Laplante, Anne-Renee
Sent: Wednesday, March 24, 2004 12:10 PM
To: Sustala, Dennis R
Subject: RE: Production Safety System

I submitted all the CV's for both GVA and DSME to MMS.

On the Safe Charts, I have not seen them yet so I can't tell you.

Anne-Renee Laplante
Regulatory Coordinator Thunder Horse Project
BP GoM Deepwater Development BU

Redacted

281-366-5155
713-685-2011 (pager)

-----Original Message-----
From: Sustala, Dennis R
Sent: Wednesday, March 24, 2004 11:51 AM
To: Laplante, Anne-Renee
Subject: Production Safety System

I have two short requests for info:

Back when we did the CVA application - we got Oks / Waivers from the PE requirement for GVA. In addition, I believe that you also submitted the DSME support data "just in case" or upon request of Arvind, I can't remember the details. I wanted to confirm that this info was actually given to them, so that I don't offer infor that didn't actually go in.

Second item:

The PSS requires certification of the mechanical and electrical design. MEI will furnish the PE certification for their drawings. How is TH dealing with the PE requirment for any of the GVA/ DSME items that may be part of this package?

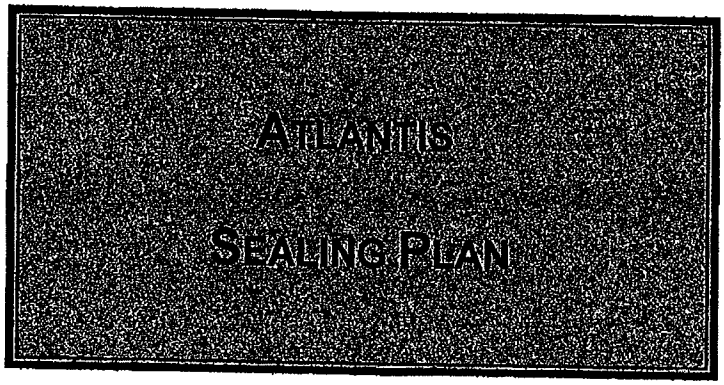
And yes, I'd still like to look over your package when you send it in. Thanks again.

Redacted

EXHIBIT 90

BP

WELL SYSTEM INTEGRATION & DESIGN ENGINEERING



Updated by: Regina O'Connell, Project Secretary

Postal Address: TECHNIP OFFSHORE, INC. – 11700 Old Katy Road – Suite 150 – Houston, Texas 77079 – USA
www.technip.com

Tel.: 281 870 1111 – Fax: 281 759 7261

buildings, machines, equipment, processes, systems, works, projects, and industrial or consumer products or equipment of a mechanical, electrical, electronic, chemical, hydraulic, pneumatic, geotechnical, or thermal nature and include other professional services necessary for the planning, progress, and completion of any engineering service.

In this subdivision:

(A) "Design coordination" includes the review and coordination of technical submissions prepared by others, including the work of other professionals working with or under the direction of an engineer with due professional regard for the abilities of all professional parties involved in a multidisciplinary effort.

(B) "Engineering surveys" includes all survey activities required to support the sound conception, planning, design, construction, maintenance, and operation of an engineered project, but does not include the surveying of real property and other activities regulated under the Professional Land Surveying Practices Act (Article 5282c, Vernon's Texas Civil Statutes).

(See TEPA- Section 2- "Definitions" Rev 11-11-2001)

3.3 **Seal or Stamp** - A raised impression, permanent ink printed or computer generated representation of an approved State seal image, providing the Professional Engineer's name and registration/license information. The Seal design and size shall be in accordance with state requirements.

3.4 **Government Entity** – The government board or similar agency that is empowered to Register/License/Certify engineers in their jurisdiction.

3.5 **Engineering Documents** – Includes all engineering reports, plans, drawings, designs, details, calculations, specifications and other similar services offered as the work product of a Professional Engineer for a fee or other consideration when engaged in the practice of engineering (see above).

3.6 **Serial Number** – A unique identifying number issued to each Professional Engineer by the authorizing Government Entity. See TEPA Section 15.

3.7 **State** – Refers to the State of Texas or other specifically designated state within the United States of America.

3.8 **Out-of-State** – Any jurisdiction (domestic or international) outside of Texas

3.9 **TEPA** – Texas Engineering Practice Act

Confidentiality category: C.2.
In accordance with the Group Directive 92.DIG.P.606 (ex: P.2100)

'CONFIDENTIAL TECHNIP OFFSHORE BRANCH, DO NOT DISCLOSE WITHOUT AUTHORIZATION'

This document contains confidential information. Property of Technip Offshore, Inc. – Copyright Technip Offshore, Inc. - All rights reserved.'

EXHIBIT 91

IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF TEXAS
HOUSTON DIVISION

UNITED STATES OF AMERICA EX REL. KENNETH W. ABBOTT; KENNETH W. ABBOTT, INDIVIDUALLY; AND FOOD & WATER WATCH, INC.;	)	
Plaintiffs,	)	CIVIL ACTION
v.	)	NO. 4:09-CV-01193
BP EXPLORATION AND PRODUCTION, INC., ET AL.;	)	JURY DEMANDED
Defendants.	)	

****

ORAL AND VIDEOTAPED DEPOSITION OF
DEFENDANTS REGARDING VALUE OF RESERVES
AND VALUE AND COSTS OF PRODUCTION
DANIEL ELMER
SEPTEMBER 14, 2011

****

ORAL AND VIDEOTAPED DEPOSITION OF DANIEL ELMER, produced as a witness at the instance of the PLAINTIFFS, and duly sworn, was taken in the above-styled and numbered cause on SEPTEMBER 14, 2011, from 2:06 p.m. to 5:29 p.m., before Donna L. Garza, CSR, in and for the State of Texas, reported by machine shorthand, at the law offices of Fulbright & Jaworski, LLP, 1301 McKinney, Suite 5100, Houston, Texas, pursuant to the Federal Rules of Civil Procedure and the provisions stated on the record or attached hereto; that the deposition shall be read and signed before any notary public.

A. Okay. Uh-huh.

Q. And basically, you'll see that 25 through 30, these six topics -- 25 is -- relates to proved reserves out of the Atlantis Field. 26 is the future production of the proved reserve. 27 is probable reserve. 28 is the future production of the probable reserves. 29 is possible reserves. And 30 is the future production of possible reserves, correct?

A. That's right.

Q. All right. And you've been designated to testify on those six topics, among others, right?

A. That's correct.

Q. Okay. Now, before we get into the documents and what you have to say about it, what is your understanding as to the import of the distinction between proved reserves, probable reserves, and possible reserves?

A. First off, let me say: We don't categorize reserves as "possible" at BP.

Q. Okay. So that's not used at BP?

A. It's not used at BP, so I do not know what that term is.

Q. So basically 29 and 30 are taken care of as not applicable. Is that what you're telling me?

A. They're not applicable in terms of what we --

of what a possible reserve is. We have three reserve categories.

Q. Okay. Give them to me.

A. They are proved and probable, and those are what we call reserves.

Q. Okay.

A. And then we have contingent resources.

Q. Right.

A. Okay. But we do not call them reserves, we call them resources.

Q. Well, let me just ask you this: When you were ARCO, did they use proved, probable, and possible?

A. I don't remember.

Q. Those aren't phrases that I made up. They're -- they're pretty much understood in the industry as different ways to account for reserves and -- and get banking based on those reserves, right?

MR. McCLURE: Excuse me. Object to form.

Q. (BY MR. WATTS) Go ahead.

A. So I do not know.

Q. Okay. Well, let me just ask you this: Even though you don't use it at BP and you call it contingent resources, you've heard the phrase "possible reserves"?

A. I have heard the phrase "possible reserves."

Q. And you understand, within the industry, what

the import of the difference between proved, probable versus possible is, right?

A. I know proved and probable, and I know that -- I know a little bit about what possible might be.

14:37 Q. Okay.

A. Yeah.

Q. And as I understand it -- you tell me whether I'm wrong -- if I own a bunch of interests, you know, in -- in reserves and I go to a bank and I say I want to

14:37 borrow money against these interests, they are going to want to know how much of it is proved, how much of it is probable, and how much of it is possible, so they can figure out how much to discount before they decide what they are going to loan you.

14:38 MR. McCLURE: Object to form.

Q. (BY MR. WATTS) Is that something you're familiar with?

A. I don't know. I've never done any of the banking stuff.

14:38 Q. Okay. Is there any reason for a distinction between proved, probable, and possible? Is there any, like, SEC reporting requirements or things like that?

A. We are required in our financials to provide the estimate of proved reserves.

14:38 Q. Yep.

A. We can, if we want to, provide probable.
Q. Okay.
A. We do not at BP.
Q. Okay.
14:38 A. And possible, no, I don't -- I don't -- there's no requirement that I'm aware of that the SEC requires.
Q. So the only requirement is to designate your proved reserves. I think what I'm hearing is that BP
14:38 does designate its proved reserves, right?
A. Correct.
Q. It accounts for or keeps track of within its organization the probable reserves, right?
A. That's right.
14:38 Q. And then it accounts for and keeps track of what it calls contingent resources?
A. It does all -- the resource team, yes, does all three.
Q. Okay. Now, with the understanding that the
14:38 SEC requires a designation of proved reserves -- and we'll talk about what you reported in a little bit -- what is your understanding of the reason that BP accounts for, within itself, the probable reserves?
A. To be honest, I'm not sure why we account for
14:39 the probable reserves.

A. That would be my -- yeah, that would be my understanding of how it worked out.

Q. All right. That makes sense.

All right. So as I understand what you're saying -- and I'm not disagreeing with it. I just want to get -- make it more specific. I'm going to draw my diagram -- this is Exhibit 151 -- for a second.

I never went to the second. Oh, I did? Hold on just a second. Let me look real quick. I'll be damned. Yep. I wander how there was two of them.

Let's call this diagram 152.

(Marked Discovery Exhibit No. 152.)

Q. (BY MR. WATTS) All right. Let me hand you 152 -- and like I say, in 152 we have -- and this is just for demonstrative purposes, but we have this big circle, and say that's all the Atlantis Field. And if something is categorized within BP as "proved," you have an SEC obligation to report it, right?

A. That's right.

Q. If something is categorized as "probable," that's something where, internally, you think it's more likely than not that those are reserves. But you use that to cause management to invest dollars to convert probable to proved so that you can produce it, right?

A. I would say a couple of things. One is that

these are less likely to happen than the proved reserves.

Q. Sure. Probable is less likely than proved. Agreed.

14:44 A. That's correct.

Q. Okay. The second thing you wanted to say?

A. We may have invested some of our money already into what are considered probable reserves.

Q. Which may be why it's not contingent anymore. 14:44 You know, for example, an appraisal well?

A. Yeah, there just -- there isn't, yeah -- there isn't yet enough evidence to call it, by SEC definitions, "proved" yet.

Q. Sure.

14:44 A. And we may have already gotten approval to spend money on some of the reserves that might be categorized as "probable."

Q. And then, by contrast, what you're saying is is contingent resources are things that BP keeps track 14:44 of as kind of a future projects list. But you can't go to your management with a straight face and say, Hey, it's more likely than not that there's oil or gas in these contingent resources?

A. So it's a hopper of ideas --

14:45 Q. Yep.

A. -- that may or may not become anything that we would ever take to management, is all I'm saying.

Q. So the line that I've drawn between proved and probable and contingent is, on the right side of that line, contingent -- that's just a hopper of stuff that could happen, might happen. It's kind of guesswork as to what's there, right?

MR. McCLURE: Object to form.

A. I don't know if we know that it's there or not there.

Q. (BY MR. WATTS) Okay. But when you're on the left side of this line and you're proved or probable, you guys internally think it's more likely than not that there are reserves there, and you use that to go get money from management in order to prove them up, right?

A. Again, there's still a different -- you know, there's a delineation between proved and probable.

Q. Let me split that delineation up.

When it's probable, you told me that internally you guys think it's more likely than not that there's a reserve there, and you use that category to go get money?

A. No --

Q. When it's proved, you know they're there?

A. No. Well, we have a high degree of confidence

that the reserves are here when they're proven.

Q. Okay.

A. Okay?

Q. And what when they're probable --

14:46 A. When they're probable --

Q. -- it's more likely than not. That's what "probable" means, right?

A. What I've said is that the two combined are equal to what we believe is most likely that -- the most

14:46 likely number that could be above or below what our actual recovery is going to be.

Q. Sure. Okay. And when the two together, you mean proved and probable together?

A. Proved and probable together is our best

14:46 estimate of the point at which we could be above or below.

Q. Okay. I'm with you. All right.

Now, getting away from Exhibit 152, since we've already taken care of 29 and 30, let's go to 25

14:46 and 26.

25, let me read it into the record. "The amount, magnitude, and/or quantities of the proved reserves within the lease boundaries of the Atlantis Field, including without limitation Green Canyon block

14:46 700, 742, 743, and 744 in the central Gulf of Mexico and

I, DANIEL ELMER, have read the foregoing deposition and hereby affix my signature that same is true and correct, except as noted above.

Daniel R Elmer

DANIEL ELMER

STATE OF Texas *
COUNTY OF Harris *

Before me, Esthela Garza, on this day personally appeared DANIEL ELMER, known to me, or proved to me under oath or through personally known (description of identity card or other document), to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that they executed the same for the purposes and consideration therein expressed.

Given under my hand and seal of office on this, the 12 day of October, 2011.

Esthela Garza

Notary Public, State of Texas

My Commission Expires: March 30, 2015

NOTARY PUBLIC STATE OF TEXAS
ESTHELA GARZA
My Commission Expires
March 30, 2015

THE STATE OF TEXAS)

COUNTY OF HARRIS)

I, DONNA L. GARZA, a Certified Shorthand Reporter in and for the State of Texas, do hereby certify to the following:

That the witness, DANIEL ELMER, was duly sworn by the officer and that the transcript of the oral deposition is a true record of the testimony given by the witness;

That the deposition transcript was submitted on September 20, 2011, to the witness, or to the attorney for the witness, for examination, signature, and return to Worldwide Court Reporters, Inc., by October 20, 2011.

That the amount of time used by each party at the deposition is as follows:

Mr. Mikal C. Watts - 3 hours, 4 minutes

Mr. Daniel M. McClure - No time

I further certify that I am neither counsel for, related to, nor employed by any of the parties or attorneys in the action in which this proceeding was taken, and further that I am not financially or

otherwise interested in the outcome of the action.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, on this, the 14th day of September, 2011.

Donna Garza

DONNA L. GARZA, TEXAS CSR NO. 4785

Expiration Date: 12-31-11

WORLDWIDE COURT REPORTERS, INC.
Firm Registration No. 223
3000 Weslayan, Suite 235
Houston, Texas 77027
(800) 745-1101

EXHIBIT 92

IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF TEXAS
HOUSTON DIVISION

UNITED STATES OF AMERICA,)
EX REL. KENNETH W. ABBOTT;)
KENNETH W. ABBOTT, INDIVIDUALLY)
AND FOOD & WATER WATCH, INC.;)
Plaintiffs,) Civil Action No. 4:09-cv-01193
)
v.)
)
BP EXPLORATION AND PRODUCTION) JURY DEMANDED
INC., ET AL.,)
Defendants.)

****

VIDEOTAPED ORAL DEPOSITION OF

GLEN STEVICK, Ph.D., P.E.

DECEMBER 20, 2011

****

VIDEOTAPED ORAL DEPOSITION OF GLEN STEVICK, produced as a witness at the instance of the Defendants BP EXPLORATION AND PRODUCTION, INC., ET AL., and duly sworn, was taken in the above-styled and numbered cause on the 20th day of December, 2011, from 8:58 a.m. to 2:26 p.m., before Mary Burkes, CSR in and for the State of Texas, reported by machine shorthand, at Fulbright & Jaworski, LLP, 1301 McKinney Street, Suite 5100, Houston, Texas 77010, pursuant to Notice, and the Federal Rules of Civil Procedure and the provisions stated on the record or attached hereto.

Q. You don't know of any that were?

A. No, I don't. All I know is that we have drawings that are not complete.

Q. Is there any specific component part that you believe was not built and installed properly?

A. Not a specific one. But when you have thousands, 7,000-upward drawings that are not stamped, not marked "as-built," you don't know where in the process of design they are, there's certainly going to be problems out there. You just haven't discovered them yet.

Q. But to answer my question: There's no specific component part that you're opining was built and installed improperly?

A. We can't point to a specific component, but when there's this many drawings and this many drawings not to the final stage of design, there's almost certainly problems. We just don't know what they are yet.

Q. And you don't contend that any specific pipe, tank, valve, or other component part is of -- is of improper wall thickness, improper size or capacity, correct?

A. Not a specific one. I'm saying it's almost certainly there, given the large number of drawings

that have not completed the pros- -- the design process.

Q. And, again, you're not contending that any of the tubing pressures were improperly determined?

A. I'm contending there are almost certainly design issues in Atlantis. We just can't tell because of the huge number of drawings that have not completed the design process.

Q. But my question was: You're not contending that any of the tubing pressures were improperly determined?

A. I can't tell which of the problems exist, but with this large number, problems almost certainly exist.

Q. You've not looked at tubing pressures?

A. I did not try to recalculate everything on this platform, and that includes tubing pressures.

Q. You don't contend that any of the design working pressures or the maximum allowable working pressures were improperly determined?

A. I didn't try to redesign your platform or any of these particular details.

Q. Okay.

A. All I was looking at was, was the design process complete.

Q. You're not contending that any of the electrical hazardous area classifications were improperly done?

A. They were improperly done. If you don't have as-built drawings, you can't do them properly.

Q. Did you make any specific analysis of the electrical hazardous area classification drawings?

A. Any drawing that is not as-built, not stamped by a professional engineer, has not completed the design process. So whatever ones correspond to those, are not complete.

Q. But any specific electrical hazardous area classification that you believe was improperly rated?

A. I can't point to anything specifically.

Q. You're not contending that any of these specific electrical schematics were improperly completed?

A. The design process was not completed, if it's not as-builted and not stamped.

Q. Okay. But in terms of any specific errors that were made on the electrical schematics, you can't point to any?

A. No. And the reason is we haven't finished the design process. Or I should say BP has not.

Q. And you're not pointing to any specific errors on the fire and gas detection systems?

A. Not specific errors. Errors in not completing the design process.

Q. You don't claim that there was improper placement of any of the low- or high-pressure sensors on the production safety system?

A. I'm not claiming anything specifically, just that the design has not completed its process and so there's almost certainly mistakes, given the large number of drawings.

Q. And, again, in terms of the specifics, you're not contending that there's any specific component part or system that was improperly -- erroneously designed?

A. I'm not pointing to any specifics. It's the large number of drawings that have not completed the design process, which indicates that there will be issues.

Q. You've said upwards of 7,000 drawings that were involved with the Atlantis facility, right?

A. Could be more.

Q. Okay. And out of those many thousands of drawings, can you identify any specific drawing that you've determined that the design shown would

have been different if only a registered P.E. had stamped it?

A. I can't say any specific drawing, but that's part of the process. It just hasn't completed the design process. It hasn't been stamped "as-built." It hasn't gone back to a professional engineer to make sure whatever changes were made are acceptable for its intended purpose.

Q. And, again, I didn't see anything in your report, but just to confirm, you do not contend that there was any specific error in any of the HAZOPS, HAZIDS, cause and effect analyses, FEMAs, What Ifs, or the other hazards and risk analyses that were done on Atlantis, correct?

A. Well, in speaking with Mr. Sawyer, he did show me drawings that did have inconsistencies between a Safe Diagram and the drawing. In other words, components on the drawing weren't in the Safe Diagram and vice versa.

Q. Anything else?

A. No. It's just -- and the fact that there's no P.E. stamps, as-builting, which indicates the design process hasn't been completed and there's almost certainly errors out there.

Q. And with respect to the reference to

Mr. Sawyer, which specific component are you contending was inconsistent?

A. You'll have to talk to him.

Q. You would defer to him on that?

A. That's correct.

Q. Okay. And other than that one example, you're not claiming there's any other specific errors in any of the HAZOPS, HAZIDS, any of the hazards or risk analyses that were done on Atlantis, correct?

A. Well, I think it was part of Drilling Center 111. It was the fir- -- very first drawing. So, it's not like you had to dig very deep to find it. So, in other words, if you find it right off the bat, there's probably hundreds that are problematic.

Q. All right. But, again, when you say -- you're referring back to what Mr. Sawyer showed you?

A. That's correct.

Q. You've got nothing beyond that?

A. Oh, I've got plenty beyond that. We have evidence that the vast majority of these drawings have not completed the design process and, therefore, this example problem is likely to have

occurred numerous times.

Q. You keep saying "likely," "probably," things like that. I'm asking you for facts. Are you aware of --

A. I think almost certainly.

Q. Sir, you interrupted me again.

A Sorry.

Q. I wish you would stop it.

A Too much coffee. My apology.

Q. Are you aware of any other specific error in any of the HAZIDS, HAZOPS, the cause and effects, any of the other hazards or risk analyses on Atlantis?

A. I can't point to specifics because these drawings have not been complete -- completed.

Q. With regard to the certifications on design, are you -- do you understand that the intent behind the MMS regulations regarding certification of the design are to have competent engineering done?

MR. GOODPASTOR: Counsel, are you referring to a particular MMS regulation?

MR. MACE: We're going to ask -- yeah. Let me focus on 805.

MR. GOODPASTOR: Do you have a copy of

GLEN STEVICK, Ph.D., P.E.

THE STATE OF CA)
COUNTY OF Alameda)

Before me, K. Shoemake, on this day personally appeared GLEN STEVICK, Ph.D., P.E., known to me (or proved to me under oath of through CADL) (description of identify card or other document) to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that they executed the same for the purposes and consideration therein expressed.

Given under my hand and seal of office this 25 day of January, 2012.

Kathrin Shoemake
NOTARY PUBLIC IN AND FOR
THE STATE OF CA

KATHRIN SHOEMAKE
Commission # 1868106
Notary Public - California
Alameda County
My Comm. Expires May 2, 2014

THE STATE OF TEXAS)
COUNTY OF HARRIS)

I, Mary Abbott Burkes, Certified Court Reporter, duly commissioned and qualified in and for the State of Texas, do hereby certify that

THE STATE OF TEXAS)
COUNTY OF HARRIS)

I, Mary Abbott Burkes, Certified Court Reporter, duly commissioned and qualified in and for the State of Texas, do hereby certify that there came before me on December 20, 2011, at Fulbright & Jaworski, LLP, 1301 McKinney, Suite 5100, Houston, Texas 77010, the following named person; to wit, GLEN STEVICK, Ph.D., P.E., who was by me duly cautioned and sworn to testify to the truth and nothing but the truth of his knowledge touching and concerning the matters in this cause; and that said witness was thereupon carefully examined upon his oath and his examination reduced to writing under my supervision; that it is a true record of the testimony given by the said witness, that said witness requested review and signature of the deposition; that changes, if any, made by the witness were returned and are contained on the Correction Page attached to the original transcript.

I further certify that I am neither attorney for nor counsel for, nor related to nor employed by any of the parties in the action in which this statement is taken, and further that I

am not a relative or employee of any attorney or counsel employed by the parties hereto, nor financially interested in this action.

IN WITNESS WHEREOF, I have hereunto affixed my hand and seal of office on this, the 20th day of December, 2011.

Mary Abbott Burkes,
Certified Shorthand Reporter
In and for the State of Texas
Certification No. 5199
Date of Expiration: 12/31/11

Worldwide Court Reporters
Firm Registration No. 223
3000 Weslayan, Suite 235
Houston, Texas 77027
(713) 572-2000

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

State of California
County of Alameda

On Jan. 25, 12 (Date) before me, Kathrin Shoemake (Here Insert Name and Title of the Officer),
personally appeared Glen Stevick (Name(s) of Signer(s))

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.

Signature: Kathrin Shoemake (Signature of Notary Public)

KATHRIN SHOEMAKE
Commission # 1888106
Notary Public - California
Alameda County
My Comm. Expires May 2, 2014

Place Notary Seal and/or Stamp Above

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

Description of Attached Document

Title or Type of Document: Deposition
Document Date: 1-25-12 Number of Pages: 2
Signer(s) Other Than Named Above: _____

Capacity(ies) Claimed by Signer(s)

Signer's Name: _____	Signer's Name: _____
☐ Corporate Officer — Title(s): _____	☐ Corporate Officer — Title(s): _____
☐ Individual	☐ Individual
☐ Partner — ☐ Limited ☐ General	☐ Partner — ☐ Limited ☐ General
☐ Attorney In Fact	☐ Attorney In Fact
☐ Trustee	☐ Trustee
☐ Guardian or Conservator	☐ Guardian or Conservator
☐ Other: _____	☐ Other: _____
Signer Is Representing: _____	Signer Is Representing: _____
RIGHT THUMBPRINT OF SIGNER — Top of thumb here	RIGHT THUMBPRINT OF SIGNER — Top of thumb here

©2008 National Notary Association • 9350 De Soto Ave., P.O. Box 2402 • Chatsworth, CA 91313-2402 • www.NationalNotary.org Item #5907 Reorder: Call Toll-Free 1-800-876-6827

EXHIBIT 93

Commodity is oil and gas

SEA No. N-7646

UNITED STATES DEPARTMENT OF THE INTERIOR
MINERALS MANAGEMENT SERVICE
Gulf of Mexico OCS Region
New Orleans, Louisiana

SITE-SPECIFIC ENVIRONMENTAL ASSESSMENT (SEA)

INITIAL DEVELOPMENT OPERATIONS COORDINATION DOCUMENT

Green Canyon Block 742; OCS-G 15606
Green Canyon Block 743; OCS-G 15607
Green Canyon Block 744; OCS-G 15608
Green Canyon Block 787, Unleased
Green Canyon Block 788, Unleased

April 17, 2003

BP Exploration & Production Inc.
501 West Lake Park Blvd.
Houston, Texas 77079

Related Environmental Documents:

N-5843, R-3164, R-3186, N-6395, N-6040, R-3355, R-3418, R-3611, S-4937, S-5494, S-5917, S-5950, and N-7415

[redacted]

ISS MAY 1'03PM 1:52

NOTED - SCHEXNAILDRE

Analysis of the Potential for an Accidental Oil Spill and Potential for Impacts from BP Exploration & Production Inc.'s Green Canyon Blocks 743 and 787, Atlantis Project, Initial DOCD N-7646

Introduction

The National Environmental Policy Act, as amended, (NEPA) requires Federal agencies to consider potential environmental impacts (direct, indirect, and cumulative) of a proposed action as part of agency planning and decisionmaking. The NEPA analyses address many issues relating to potential impacts, including issues that may have a very low probability of occurrence, but which the public considers important or for which the environmental consequences could be significant.

The past several decades of spill data show that impacts from accidental oil spills (≥1,000 bbl) associated with oil and gas exploration and development are low probability events in Federal OCS waters of the Gulf of Mexico (GOM). This appendix summarizes key information about the probability of accidental spills from offshore oil and gas activities in the GOM.

Spill Prevention

The MMS has comprehensive pollution-prevention requirements that include numerous redundant levels of safety devices, as well as inspection and testing requirements to confirm that these devices work. Many of these requirements have been in place since about 1980. Spill trends analysis for the GOM OCS show that spills from facilities have decreased over time, indicating that MMS's engineering and safety requirements have minimized the potential for spill occurrence and associated impacts. Details regarding MMS's engineering and safety requirements can be found at 30 CFR 250.800 Subpart H.

OCS Spills in the Past

This summary of past OCS spills presents data for the period 1985-1999. The 1985-1999 time period was chosen to reflect more modern engineering and regulatory requirements and because OCS spill rates are available for this period. For the period 1985-1999, there were no spills ≥1,000 bbl from OCS platforms, eight spills ≥1,000 bbl from OCS pipelines, and no spills ≥1,000 bbl from OCS blowouts (Tables F-1 through F-3). It should be noted that past OCS spills (Tables F-1 through F-3), some of which are considerably greater than 1,000 bbl, have not resulted in any documented significant impacts to shorelines or other resources. The Draft EIS for Lease Sales 189 and 197 in the Eastern Planning Area (USDOI, MMS, 2002a) and the most recent Final EIS for Lease Sales 185, 187, 190, 192, 194, 196, 198, 200 and 201 in the Central and Western Planning Areas (USDOI, MMS, 2002b) provide additional information and discussion on past OCS spills.

Estimating Future Potential Spills

The MMS estimates the risk of future potential spills by multiplying variables to result in a numerical expression of risk. These variables include the potential of a spill occurring based on historical OCS spill rates and a variable for the potential for a spill to be transported to environmental resources based on trajectory modeling. The following sections describe the spill occurrence and transport variables used to estimate risk and the risk calculation for the proposed action.

Spill Occurrence Variable (SOV) — Representing the Potential for a Spill

The SOV is derived based on past OCS spill frequency. That is, data from past OCS spills are used to estimate future potential OCS spills. The MMS has estimated spill rates for spills from facilities, pipelines, and drilling.

Spill rates for facilities and pipelines have been developed for several time periods and an analysis of trends for spills is presented in Anderson and LaBelle (2000). Spill rates for the most recent period analyzed,

FWW0008620

EXHIBIT 94

Development Operations Coordination Documents

For Operations in
Green Canyon Block 742, 743, 744, 787, 788
OCS-G 15606, OCS-G 15607, OCS-G 15608

Project Name: *Atlantis*

Date: December 5, 2002

Prepared By: Dennis Sustala
Atlantis Regulatory Compliance Manager
BP Exploration & Production Inc.

Public Information Copy

If an oil slick reaches the coastline, specific shoreline cleanup countermeasures have been identified and prioritized. The sensitivity of the contaminated shoreline is the most important factor in the development of cleanup recommendations. Shorelines of low-productivity and biomass can withstand more intrusive cleanup methods while high-productivity and biomass areas are sensitive to intrusive cleanup methods.

The single most frequently recommended spill-response strategy is the use of a shoreline boom to deflect oil away from coastal resources such as seagrass beds, marinas, resting areas for migratory birds, bird and turtle nesting areas, etc.

BP has formalized a response to potential spills for operations in the Gulf of Mexico. BP Exploration & Production Inc is covered by a Regional OSRP that was last approved by the MMS on January 31, 2001.

BP has contracts in-place with two (2) Oil Spill Removal Organizations (OSRO's): The National Response Corporation (NRC) and the Marine Spill Response Organization (MSRC). The NRC and MSRC will provide both equipment and trained personnel in the event an oil spill response is mounted as a result of BP's proposed activities described in the Plan.

The Atlantis Project is located approximately 122 miles from the nearest shore point. Consequently, most accidental spills have a low chance of contacting near shore environmental resources. Only extreme large, worst-case discharge scenarios are predicted to reach land.

An oil spill model projects that a large spill would impact Terrebonne Bay near Isles Denieres at Lat: 29- 4'- 7" Long. 90 - 38' – 38". The Atlantis project has provided the following information required by 30 CFR 254.26(d) and NTL 2002 G08, Appendix F:

- A description of the response equipment to contain and recover the discharge
- A description of the personnel, materials, and support vessels used in deployment and their location and owners.
- A description of oil storage, transfer, and disposal equipment
- An estimation of the individual times needed to procure equipment, vessels, personnel, as well as loadout, travel and deployment times.
- A calculation of the effective daily recovery capacities using the methods described in 30 CFR 254.44

8.3 Impacts from Environmental Conditions

Provide a discussion of the potential impacts on your proposed activities that could result from environmental conditions in the project area (e.g., currents, geohazards). Such environmental conditions may increase the risk of an accident that could cause impacts to environmental resources.

The Atlantis Project will use a floating platform that is anchored to the seafloor. Production from subsea wells will be carried by pipeline risers to the PQ. The PQ, risers, and mooring system will be subjected to the environmental effects of wave heights and periods, currents, vertical distribution

EXHIBIT 95

IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF TEXAS
HOUSTON DIVISION

UNITED STATES OF AMERICA EX REL. KENNETH W. ABBOTT; KENNETH W. ABBOTT, INDIVIDUALLY; AND FOOD & WATER WATCH, INC.;	)	
Plaintiffs,	)	CIVIL ACTION
v.	)	NO. 4:09-CV-01193
BP EXPLORATION AND PRODUCTION, INC., ET AL.;	)	JURY DEMANDED
Defendants.	)	

****

ORAL AND VIDEOTAPED DEPOSITION OF
RICHARD ~~M.~~ H. PIERCE, Ph.D. (per changes/Signature pg. attached)
DECEMBER 1, 2011

****

ORAL AND VIDEOTAPED DEPOSITION OF RICHARD M. PIERCE, Ph.D., produced as a witness at the instance of the DEFENDANTS, BP, P.L.C.; BP AMERICA, INC.; BP EXPLORATION & PRODUCTION, INC.; AND BP PRODUCTS NORTH AMERICA, INC., and duly sworn, was taken in the above-styled and numbered cause on DECEMBER 1, 2011, from 9:01 a.m. to 2:53 p.m., before Donna L. Garza, CSR, in and for the State of Texas, reported by machine shorthand, at the law offices of Fulbright & Jaworski, LLP, 1301 McKinney, Suite 5100, Houston, Texas, pursuant to the Federal Rules of Civil Procedure and the provisions stated on the record or attached hereto; that the deposition shall be read and signed before any notary public.

Q. And -- and I saw something about -- I'm sorry -- in my research on Mote Environmental, LLC?

A. Yes.

Q. Can you tell me about that company?

09:23 A. That's a for-profit subsidiary of Mote Marine Laboratory. It was set up initially to be an environmental research center. It's -- now is primarily our fisheries aquaculture program.

Q. And it doesn't engage in remediation projects

09:23 and the like?

A. No.

Q. Okay. All right. Getting back to your report --

Actually, let me back up a little bit.

09:23 In what areas do you expect to be qualified as an expert witness?

A. My degrees, bachelor's and master's in chemistry from the University of South Florida; I have a doctorate in chemical oceanography from the University

09:24 of Rhode Island Graduate School of Oceanography; and I did a post-doctoral research in plant pathology where we looked at the effects of -- of oil on marine algae.

I expect -- my expertise is in chemical oceanography, focusing on the fate and effects of toxic

09:24 chemicals in the aquatic environment.

reports regarding Mr. Abbott's or Food & Water Watch's claims?

A. No, I have not.

Q. I'm trying to get an understanding of how we get from -- we'd like you to ask -- to give us some research on the effects of an oil spill and it translating into this 40-page treatise, which is incredibly interesting and -- and helpful. But I -- I need to understand: What was your charge?

A. My charge was to provide expert opinions regarding the likely long-term impacts of an additional massive spill of crude oil in the Northern Gulf.

Q. And -- and I guess one of the -- were there any limitations placed on your research?

A. No.

Q. Did you produce any drafts of the report?

A. Yes.

Q. Okay. How many drafts?

A. One draft that was submitted for review. And I, myself, had several drafts that I re- -- revisited and rewrote with one draft for review.

Q. And when you say "submitted for review," submitted to whom?

A. It was submitted to Ms. Watts.

MS. WHITTLE: Ms. Whittle.

oil spill, correct?

A. That's correct.

Q. That's some future oil spill, correct?

A. That's correct.

09:48 Q. That -- that's a hypothetical oil spill, correct?

MS. WHITTLE: Objection; form.

A. That's correct.

Q. (BY MR. McNAMARA) And we can agree that the
09:49 ATLANTIS facility has not had a catastrophic release of oil, correct?

A. Not to my knowledge.

Q. All of that being the case, I think we can agree that ultimately your report is speculative?

09:49 MS. WHITTLE: Objection; form.

A. I think from a scientific viewpoint, it's not speculative. It utilizes actual environmental data and actual toxicity data to show that the presence of the chemical compounds that result from release of crude oil
09:49 are and would be damaging and likely could, in fact, cause irreparable impact.

Q. (BY MR. McNAMARA) Okay. And correct me if I'm wrong, but whether oil impacts or damages any particular organism is again dependent on the type of
09:50 crude oil, correct?

put a distinct volume on it.

Q. And -- and the reason I guess I'm struggling with this is I need to be able to test your conclusions.

MS. WHITTLE: Objection; form.

10:29 A. Uh-huh.

Q. (BY MR. McNAMARA) How can I look at your conclusions and figure out whether you followed the scientific method? That -- that's a question.

A. Okay. Well, the scientific method depends on 10:29 interpretation of results and in logical -- drawing logical conclusions from them. In following the literature, I was able to document adverse impacts or effects on many different types of organisms: Little crabs, embryo and larvae of various fishes, death of sea 10:30 turtles, dolphins, sea birds. And a major concern is the impacts of salt marshes, estuaries, which are nursery grounds for many of the organisms.

And in looking at the concentration of toxic components of crude oil that were found in the 10:30 Gulf of Mexico following the BP spill and comparing that with various studies of toxic -- toxicity studies of those compounds, as well as of the water-accommodated fraction of crude oils, the logical conclusion is that a -- a major discharge of oil would result in 10:31 concentrations of those toxic chemicals that would be

hazardous, dangerous, and toxic to various forms of marine life.

Q. And again, I think that gets back to my summary of your report, is another major spill would be bad for the Gulf of Mexico?

MS. WHITTLE: Objection; form.

A. And -- and again, I get back to the concept that I think "bad" is an inadequate description of what would happen.

Q. (BY MR. McNAMARA) We can use whatever phrase you want. Another oil spill would be catastrophic?

A. Yeah. Or it would -- in my opinion, it would cause long-term and likely irreparable damaging effects.

Q. Okay. And what's the basis for you saying that the long-term effects are likely?

A. Primarily research that's been done in estuaries where major spills have occurred. And some of the very recent information that was in this report of killifish and others that were exposed to weathered oil and in the Louisiana bayous showing that although the organisms themselves didn't die, their offspring or they, themselves, had bioindicators of damage.

Q. Okay. And this is something I'm -- I was planning on talking about a little later, but we might as well get into it now.

finished that out, correct?

A. Yes, that's correct.

Q. And we're onto the fifth, which are the Long-Term Impacts?

13:10 A. Yes.

Q. And again, just to be clear, it's the long-term impacts of what?

A. Long-term impacts of a major oil spill in the northern Gulf. Long-term impacts that would likely

13:10 result in irreparable damage.

Q. The first bullet is: "Oil spills impact large numbers of individuals from many different species. In localized oil spills, once the oil has dissipated, populations can usually recover over time. Large and/or

13:10 repeated spills, however, can reduce the population of susceptible species below the level of sustainability"?

A. Yes.

Q. And that's -- that's just a generic statement, correct?

13:10 A. Well, it's based on evidence from previous spills, such as the Exxon Valdez, the Bahia Las Minas in Panama, and others such as that.

Q. Okay. And is it your opinion today that the Gulf is, in a sense, compromised as a result of the

13:11 DEEPWATER HORIZON spill?

A. Yes. It is -- it is my opinion that it has been compromised as a result in -- in specific areas.

Q. And do you expect those conditions to improve over time?

13:11 A. Most of them, I expect to. Some I'm concerned may not improve for a long time.

Q. Okay. Tell me those particular concerns.

A. I'm interested -- I'm concerned about salt marshes, estuaries, mud flats that have been impacted by

13:11 the oil. I'm also concerned about some of the even pelagic fisheries that may have been impacted by the oil, but we don't know what the long-term consequences of that could be and we won't until studies have been performed, probably for several years.

13:12 Q. And, ultimately, it comes down to that we just don't, at this point, know the actual impact of the DEEPWATER HORIZON, correct?

MS. WHITTLE: Objection; form.

A. We -- we do know of many impacts that have

13:12 occurred, but we don't yet know what the ultimate impact will be.

Q. (BY MR. McNAMARA) Okay. And, again, I -- you and I sometimes quibble about the difference between the words --

13:12 A. I'm sorry.

Q. -- "impact" versus "damage."

A. Yeah. Impact meaning adverse impacts causing damage --

Q. Okay. And, again, all of this is dependent upon such a spill occurring in -- in a sufficient volume?

A. Yes.

Q. Okay. Next bullet point: "Acute toxicity occurs from exposure to high concentration of WAF and physical oiling. This abruptly alters the abundance and dominance of key species in the food web. The results are disrupted trophic transfer of food and energy through the ecosystem that can result in trophic cascade"?

A. Yes.

Q. And again, that's dependent upon the dose or concentration of the oil?

A. Yes.

Q. Have you seen any evidence of trophic cascades at play following the DEEPWATER HORIZON?

A. I -- I really haven't been investigating the DEEPWATER HORIZON to that extent. This information was taken from previous areas of previous spills, previous published information.

Q. Can you give me an example -- a peer-reviewed

A. Yes.

Q. And dependent upon the fact that some oil spill may occur in the future, correct?

A. Yes.

13:25 Q. All right. And again, all of these conclusions, all six, are based upon the assumption that there's been another catastrophic discharge of oil?

A. Yes.

Q. Okay. But we don't know the volume of that 13:25 release?

A. That's correct.

Q. Don't know the duration of that release?

A. Huh-uh.

Q. Okay. Don't know the specifical (sic) 13:25 chemical composition of what would be released?

A. No.

Q. And I think we discussed this earlier. But whether the release is from the ATLANTIS or some other deepwater facility, it doesn't affect your opinions in 13:25 this case, does it?

A. That is correct. It does not.

Q. Without knowing the type of oil, the volume of oil, the duration of the spill, you can't give any opinion as to the likely damage that will occur, 13:26 correct?

MS. WHITTLE: Objection.

A. I -- I think it is appropriate to give an informed opinion as to what likely would occur if a spill of considerable magnitude were to happen. I cannot tell you exactly what or where that would be. But based on previous studies, previous spills, published data, and based on toxicity data of the chemical components that's in crude oil, I think it is a reasonable assumption that there would likely be long-term and irreparable damage.

Q. (BY MR. McNAMARA) But again, whether that would occur depends upon their exposure to a sufficient quantity of oil?

A. Yes.

Q. Okay. You haven't performed any modeling with respect to the Atlantis facility, have you?

A. I have not.

Q. Okay. Are you -- is modeling something you typically do in your --

A. No.

Q. And that's not something you would expect to testify about at trial?

A. I would not.

Q. And you're not here to offer any testimony as to the eminent danger of a release from the ATLANTIS

Q. Okay. But you haven't done any research into the likelihood of a potential release?

A. Not on my own. No, I have not.

Q. And it's simply that's outside your area of expertise, correct?

A. It is, indeed.

Q. Okay. I want to go back quickly through the areas of expertise that you intend to be -- be offered on.

Earlier you told me you're the oceanographer -- I'm sorry -- chemical oceanography.

A. Yes.

Q. Tell me all of the -- what does that include?

A. Chemical oceanography is a broad field which includes any of the chemistry of the marine environment. It can branch into the physical chemistry. It can talk about biochemistry. In my particular area, you -- you get a degree in chemical oceanography, but then you focus in certain areas of research.

My area of research has been on, first of all, a lot of analytical chemistry to be able to identify and verify the presence of and the type of toxic organic chemicals. These include pesticides, natural biotoxins, as well as petroleum chemicals, as well as industrial chemicals.

In -- in doing that, I've had considerable experience in doing toxicity studies which would be exposure and effect studies. Again, looking at the organic chemicals that would have an impact, it -- the 13:30 exact chemical that you're using is -- is -- you still use the same type of test. So it doesn't really matter if you use pesticides or petroleum or even a natural biotoxin. The exposure-type test, the end points would be the same.

13:30 Q. Do you consider yourself to be a biologist?

A. No.

Q. And you won't be offering any biological opinions, correct?

A. Only to the point of my experience in exposing 13:30 biological organisms and observing the effects on them.

Q. And -- and just real quickly, you're not a petroleum engineer?

A. No.

Q. Okay. Not a reservoir engineer?

13:31 A. No.

Q. Okay. Not going to offer any testimony about fluid dynamics of the well, itself?

A. No.

Q. You're not an expert in MMS or BOEMRE 13:31 regulations, are you?

A. I am not.

Q. And you're not going to offer any opinions about that?

A. I guess the only way I would was if -- if somebody were to ask me a specific question of is this a reasonable EIS statement, and then I would respond with my opinion. But I'm -- I'm not an expert in that area

13:31

Q. Okay. My question was not as to an EIS statement, but regulatory framework, itself.

13:31

A. No.

Q. And I hope to be able to do this real quickly. I just want to go back to your CV, work a little bit on your credentials.

A. Sure.

13:31

Q. You've been with Mote Marine Labs since --

A. 1981.

Q. And what did you join them to do?

A. I joined them to develop a research program on the fate and effects of toxic substances. The initial

13:32

study at the time, I was involved in a study of petroleum associated with drilling fluids being discharged near the flora gardens reefs off of Texas. And as that ended, then I continued to study in Charlotte Harbor, which is a major estuary just -- on

13:32

the Gulf Coast of Florida, looking for petroleum

the fate and effects of crude oil in a marine environment?

A. During that time, I believe, was when the barge accident occurred in Tampa Bay; and so I -- I was involved in that, yes.

Q. And then in 1998, you become the director for the Center of Ecotoxicology?

A. Yes.

Q. Was the Center for Ecotoxicology specifically created for you?

A. I -- I designed it and created it. At that time, the laboratory went from a research director with multiple program managers under me to seven centers, each center having a head -- a Ph.D. director, and I was very pleased to put together my own center for research on ecotoxicology.

Q. Okay. And during that time frame, say from 1998 to let's say April 19th, 2010, what was your primary area of focus?

A. My primary area of focus was still on the fate and effects of the marine environment. The specific chemicals I was working with would have been pesticides and natural biotoxins.

Q. And that's the red algae?

A. Red tide.

A. Yes.

MR. McNAMARA: I don't have anymore questions for you at this point.

MS. WHITTLE: Okay. Would you like to take a break before I begin, or would everyone like to go forward?

THE WITNESS: I don't need a break.

E X A M I N A T I O N

BY MS. WHITTLE:

Q. All right. Dr. Pierce, you said that the field of chemical oceanography is a broad field and that -- then you go on to seek a specialty. How did you go about seeking a specialty after you received your doctorate?

A. Uh-huh. I was interested in toxic chemicals affecting the marine environment. First of all, I was interested in their transport and fate, what happens to them. And then as I got further into it, working with people in other fields, I was interested in how these toxic chemicals would impact marine life.

Q. And how many years now have you been working in the field of toxicology?

A. I've been doing toxic exposure studies for approximately 20 years.

Q. And you mentioned that the same type of study

Q. And Mr. McNamara earlier asked if -- how to test your opinions. Would -- would it be fair to say that the DEEPWATER HORIZON spill is a test of your opinions?

14:49 A. I believe it would be. It's the only deepwater discharge in the Gulf that has occurred; and, therefore, it is a major experiment that the Gulf of Mexico is undergoing right now. So as scientists are studying the short- and long-term effects from that, 14:49 we're beginning to learn things that we have not had an opportunity to learn before.

However, with that said, we still can draw on information from previous spills even if they were at the surface. We still have a lot of information that we 14:49 can gain from previous spills about how long the oil stays in certain areas and what the impacts have been on immediate short-term adverse impacts, as well as long-term, 10-, 20-, 30-year adverse impacts in environments that were affected by those spills.

14:50 Q. And is it your opinion that the DEEPWATER HORIZON spill has had irreparable and will have long-term, 10-, 20-, 30-year impacts?

MR. McNAMARA: Objection to the form.

A. It -- it is my opinion -- based on the limited 14:50 amount of information that's yet available, because so

many studies are still ongoing and the results have been not been obtained, much less published, it's -- it's my opinion that there have been irreparable -- areas of irreparable damage, and I believe that there will be long-term impacts from that spill. Long-term adverse impacts from that spill.

Q. (BY MS. WHITTLE) If there are areas that are recovering now, what is your opinion about what an additional insult from an oil and gas spill -- what effect would that have?

MR. McNAMARA: Objection to the form.

A. There are many delicate ecosystems in -- in the northern Gulf of Mexico. Those that are recovering, if there's another major spill, it could just tip them over the edge to where they may not be able to recover, or at least it would take much longer for a recovery to occur.

MS. WHITTLE: Let me just check through my notes one more time.

A. I would have to say especially if -- if the oil were to get up in the marshes, main groves, along even the southern part of Florida, the saltmarshes, that there would definitely be long-term and irreparable damage resulting from an additional major spill.

Q. (BY MS. WHITTLE) And it sounds to me as if

you're defining "long-term" as greater than ten years?

A. I think long-term could even be shorter than that. It -- I guess that's open to interpretation. But, yes, a ten-year period or more would definitely be considered long-term impacts.

Q. And is it your opinion that an additional massive discharge of oil is likely to have a long-term impact on the organisms in the Gulf of Mexico?

MR. McNAMARA: Objection; form.

A. Yes.

MS. WHITTLE: Okay. I think that's all the questions I have.

MR. McNAMARA: Thank you, Dr. Pierce.

THE WITNESS: Thank you. Thank you.

THE VIDEOGRAPHER: Ending the deposition at 2:53 p.m., Tape 5.

(The deposition concluded at 2:53 p.m.)

WITNESS CORRECTIONS AND SIGNATURE

Please indicate changes on this sheet of paper, giving the change, page number, line number and reason for the change. Please sign each page of changes.

PAGE/LINE	CORRECTION	REASON FOR CHANGE
Cover	Richard "H" Pierce	"M" is incorrect
1/14	"H"	"M" is incorrect
3/3	"H"	"M" is incorrect
8/1	thats "from" crude	insert "from"
9/19	"Laboratory's"	"Laboratories" is incorrect
20/24	"Temephos"	"Chemiphos" is incorrect
21/5	about "10" on petroleum	replace "four", = incorrect
44/10	"NOEL, No Observable Effects Level"	noL = incorrect
66/6	Concentrations "given"	add "given" to complete thought
84/5	"mangrove"	"main grove" is incorrect
85/24	Add Reference: Hollander, 2011 personal communication	
85/24	Add Reference: Reddy et al. 2011; fate of DWH oil and gas	
86/1	Add Reference: Diercks et al. 2010; Subsurface PAH	
86/1	"and southwest". Camilli et al. 2010 ; Tracking Hydrocarbons	
86/23	Add "and southwest "(see above references)	
87/11	from "benthic" organisms	"ventic" is incorrect
87/25	as "pterapods",	"terapods" is incorrect

Richard H Pierce

RICHARD H. PIERCE, Ph.D.

I, RICHARD M. PIERCE, Ph.D., have read the foregoing deposition and hereby affix my signature that same is true and correct, except as noted above.

Richard M Pierce

RICHARD M. PIERCE, Ph.D.

STATE OF FLORIDA *
COUNTY OF SARASOTA *

Before me, Donna M Basso, on this day personally appeared RICHARD M. PIERCE, Ph.D., known to me, or proved to me under oath or through _____ (description of identity card or other document), to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that they executed the same for the purposes and consideration therein expressed.

Given under my hand and seal of office on this, the 30th day of JANUARY, 2012.

Donna M Basso

Notary Public, State of FLORIDA

My Commission Expires: OCT 25, 2015

DONNA M BASSO
Notary Public - State of Florida
My Comm. Expires Oct 25, 2015
Commission # EE 126147
Bonded Through National Notary Assn.

THE STATE OF TEXAS)
COUNTY OF HARRIS)

I, DONNA L. GARZA, a Certified Shorthand Reporter in and for the State of Texas, do hereby certify to the following:

That the witness, RICHARD M. PIERCE, Ph.D., was duly sworn by the officer and that the transcript of the oral deposition is a true record of the testimony given by the witness;

That the deposition transcript was submitted on December 9, 2011, to the witness, or to the attorney for the witness, for examination, signature, and return to Worldwide Court Reporters, Inc., by January 7, 2012

That the amount of time used by each party at the deposition is as follows:

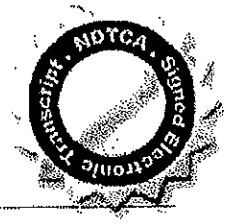
Mr. Mark L. McNamara - 3 hours, 42 minutes

Ms. Mary M. Whittle - 17 minutes

I further certify that I am neither counsel for, related to, nor employed by any of the parties or attorneys in the action in which this proceeding was taken, and further that I am not financially or

otherwise interested in the outcome of the action.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, on this, the 1st day of December, 2011.



DONNA L. GARZA, TEXAS CSR NO. 4785

Expiration Date: 12-31-13

WORLDWIDE COURT REPORTERS, INC.
Firm Registration No. 223
3000 Weslayan, Suite 235
Houston, Texas 77027
(800) 745-1101

EXHIBIT 96

Gulf of Mexico SPU - Atlantis
S&O Audit
30 November 2009 to 11 December 2009
Entity Verifiable Findings
Audit 0935

This document contains the Entity Verifiable findings from the audit referenced above.

An Entity Verifiable finding is a finding for which verification of action closure is the responsibility of the entity and will not be included in the audit report. PSM findings cannot be Entity Verifiable.

S&O Audit reserves the right to spot check Entity Verifiable findings to verify that corrective actions have been taken. If a finding is categorised as Entity Verifiable, this does not indicate that BP tolerates or accepts the gap found or any non-compliance nor is it the intention of the audit to make conclusive determinations of fact or law, and the findings attached do not purport to do so.

Entity Verifiable findings should be entered onto Gulf of Mexico SPU – Atlantis' action tracking system and tracked to closure.

Group Verifiable findings are contained in the S&O Audit Report and are tracked to closure by the S&O Audit Verification Team. The numbering of Entity Verifiable findings continues from the numbering of Group Verifiable findings.

Report Issued: 13 January 2010

This document is classified BP Confidential. Distribution is limited to BP authorized recipients only. Except for use among those individuals, reproduction is prohibited. Further dissemination requires consent of originator, and the adherence to BP Group guidelines for handling classified information.

Audit Finding Form			
Audit: 0935, Gulf of Mexico - Atlantis **Start Date:** 30-Nov-2009 **End Date:** 11-Dec-2009			
Auditor(s):	Warren, Janet;		
Site Contact:	DeJohn, Ken	**Finding:**	0935-022
		Draft Finding #:	D-0935-17-3
Category:	Category 3	**Status:**	Open
Programme:	**Programme Element:**	**Programme Sub-Element:**	
Category 3	Category 3	Category 3	
OMS	OMS 4.3 Information management and document control	OMS-4.3.2-Identify controlled documents.	
GDP	(GDP 5.0-0001) Integrity Management	(GDP 5.0-0001) Element 6-Practices and Procedures	
Compliance Requirements		**Ref #:**	
4.3.2 Specify the types of information, documents and records that are to be controlled documents and maintain formal registers of these controlled documents.		OMS-4.3.2	
5.6.3. Operation of Existing Facilities A. The BP Entity shall have documented engineering data to demonstrate that existing facilities are fit for service. This documentation may include, engineering specifications, calculations, drawings, P&IDs, HAZOP reports and inspection records.		(GDP 5.0-0001) Element 6	
Description of Finding			
Finding Atlantis platform did not supply evidence of sizing calculations for 150 of 401 pressure safety valves.			
Corrective Actions and Due Dates			
Action #	**Description**		**Due date**
0935-022-001	Obtain or re-create the missing pressure safety valve sizing calculations, as identified on the Atlantis platform pressure relief device register (1440-20-PR-RP-0009_0 PRD Register.xls).		30-Sep-2010
0935-022-002	Document the obtained or re-created information in Action 1 according to the applicable SPU document management policy.		31-Dec-2010
Team Lead	**Responsible Party**		
Pye, Mel	Morrison, Richard		

EXHIBIT 97

Audit Report
Safety & Operations Audit

Audit Location:	Gulf of Mexico SPU - Atlantis
Audit Fieldwork:	30 November 2009 to 11 December 2009
Report Issued:	Draft Report: 11 December 2009 Final Report: 13 January 2010
Audit Number:	0935
Team Lead	Mel Pye
Distribution:	Richard Morrison, Vice President GoM Production Kevin Lacy, Vice President GoM D&C James Dupree, GoM SPU Senior Vice President Gordon Birrell, Technology Vice President, E&P Dave Wall, Vice President HSSE, E&P Lamar McKay, Chairman and President, BP America Inc Mark Bly, Group Head of Safety & Operations

Table of Contents	*Page*
Executive Summary	2
Programme Assessments	4
Audit Findings	8
Appendix 1 – OMS Sub-element Assessment	30
Appendix 2 – Action Tracking, Verification and Reporting	37
Appendix 3 – Glossary and Abbreviations	38
Appendix 4 – List of Auditors	42
Appendix 5 – Terms of Reference	43

This document is classified BP Confidential. Distribution is limited to BP authorized recipients only. Except for use among those individuals, reproduction is prohibited. Further dissemination requires consent of originator, and the adherence to BP Group guidelines for handling classified information.

BPEP_ABB_04147241

Audit Finding Form			
Audit: 0935, Gulf of Mexico - Atlantis Start Date: 30-Nov-2009 End Date: 11-Dec-2009			
Auditor(s):	Harris, Danny; Smith, Paul;		
Site Contact:	O'Neal, Mark	Finding:	0935-011
		Draft Finding #:	D-0935-15-1
Category:	Category 2	Status:	Open
Programme:	Programme Element:	Programme Sub-Element:	
OMS	OMS 5.4 Inspection and maintenance	OMS-5.4.2-Maintain an inspection programme.	
ETP	(GP 32-30) Inspection and Testing of Equipment in Service	(GP 32-30) Element 12-Inspection and test records and reports	
Regulations	Reg 10- Offshore Regulatory Programmes	Reg-10.1-Offshore Regulatory Programmes	
Compliance Requirements		Ref #	
5.4.2 Implement and maintain an inspection programme to determine the condition of safety and production critical equipment and systems, and verify and document they are fit for service. Verify that deficiencies identified from the inspection programme are investigated and corrected on a timely basis.		OMS-5.4.2	
12.1 a. Inspection and test records shall be readily available and secure against loss.		(GP 32-30) Element 12	
(a) the testing must be in accordance with API RP 14C. (b) The lessee shall maintain records for a period of 2 years for each subsurface and surface safety device installed. These records shall be maintained by the lessee at the lessee's field office nearest the OCS facility or other locations conveniently available to the District Supervisor. These records shall be available for review by a representative of MMS. The records shall show the present status and history of each device, including dates and details of installation, removal, inspection, testing, repairing, adjustments, and reinstallation.		30 CFR 250.804 (a) and (b)	

Description of Finding

Finding

Atlantis platform did not have a documented pressure safety valve (PSV) testing procedure that required:

- Investigations to identify causes of PSV testing deficiencies.
- Retention of PSV testing and repair documents for at least two years.

Evidence

- The Atlantis platform PSV testing job plans did not identify the requirement to investigate and document causes of deficiencies identified during PSV testing.
- Six PSVs relieved between 11% to 39% above their set pressures during February 2009 Atlantis platform PSV testing. The deficiency causes were not investigated and documented.
- Atlantis platform did not have PSV test sheets documenting each PSV valve test.

The following finding provides additional detail associated with this finding: 0935-020.

Corrective Actions and Due Dates

EXHIBIT 98

WorleyParsons
resources & energy

bp

BP EXPLORATION & PRODUCTION INC

Atlantis
PSV-41003 Sizing Check Calculation
BP Gulf of Mexico Facilities

BP Document No.:	1440-20-PR-CA-0003-016
BP RFA/MOC No. :	RFA-0257
WP Document No.:	156461-10-PR-CAL-0015
WP CTR No.:	13601-05
Rev (Date):	Rev 0 (19-August-10)

Hydrocarbons
Energy Center II
575 N. Dairy Ashford
Houston, TX 77079 USA
Telephone: +1 713 892 0999
Facsimile: +1 713 350 1326
www.worleyparsons.com

© Copyright 2010 WorleyParsons

WorleyParsons
resources & energy

bp

BP EXPLORATION & PRODUCTION INC
ATLANTIS

PSV-41003 SIZING CHECK CALCULATION
BP GULF OF MEXICO FACILITIES

NOTICE: These materials are the Work Product of WorleyParsons, and no reliance on this work product is authorized by WorleyParsons, and WorleyParsons accepts no liability for any reliance by any person on the work product contained herein. BP has expressly authorized WorleyParsons to issue this disclaimer.

PROJECT 156481 - ATLANTIS
PSV-41003 SIZING CHECK CALCULATION

REV	DESCRIPTION	ORIG	REVIEW	WP APPROVAL	DATE	BP APPROVAL	DATE
0	Issued for Information	L. Alvarez	J. Smith	A. Garzon	19-August-10	N/A	

PSV Calculation Summary Sheet

WorleyParsons

bp

Customer	BP Exploration & Production Inc	**Proj No.**	15646105
Project Title	BP Gulf of Mexico Offshore Facilities	**BP Calc No.**	1440-20-PR-CA-0003-016
PSV Tag No.	PSV-41003	**WP Calc No.**	156461-10-PR-CAL-0015
		CTR No.	13601

Rev	Date	By	Checked	Approved
0	19-Aug-10	L. Alvarez	J. Smith	A. Garzon

RELIEF VALVE OVERVIEW

UNIT Atlantis		PROJECT Compile Calculations for Vendor Supplied PSVs	
SERVICE (EQ./LINE # & NAME)	16"-PL-A-3254	PROTECTED EQUIP. MAWP	250 PSIG
MULTIPLE VALVES IN SERVICE? N		RELIEF DESTINATION	*H.P. Flare Header*

TAG NUMBER		*PSV-41003*		
SET PRESSURE	PSIG	*250*		
PSV SIZE		*2" × 3"*		
API AREA	IN^2	*(5)*		
ASME AREA	IN^2	*2.895*		

RELIEF VALVE SIZING

SIZING CASE	Power Failure - 18" Check valve failure (Scenario 9)	ALLOWABLE OVERPRESSURE	10 %

REQUIRED RELIEF RATE					TEMP		REQ'D. AREA		INSTALLED AREA ADEQUATE?
MASS LB/HR	VAP VOL MMSCFD	LIQ GPM	MW (VAPOR)	SG (LIQUID)	IN °F	OUT °F	API IN^2	ASME IN^2	**NO**
									PSV(S) REQUIRED IN SERVICE:
10,483,200		25328	241.0	0.827	130	130	53.525	59.472	**1, Currently in service**

*ADDITIONAL CASES CONSIDERED AND THEIR RESULTS SHOWN ON CONTINGENCY ANALYSIS & CONTINGENCY SUMMARY

TAG NUMBER		*PSV-41003*		
TOTAL SUPERIMPOSED BACKPRESSURE	PSIG	*70.0*		
BUILT-UP BACKPRESSURE	PSI	*(4)*		
TOTAL BACKPRESSURE	PSIG	*(4)*		
BACKPRESSURE % OF SET PRESS.	%	*(4)*		

INLET PIPING SUMMARY

TAG NUMBER		*PSV-41003*		
FLOW FOR ΔP CALCS	LB/HR	*10,483,200*		
INLET LINE SIZE	IN	*2*		
ANSI FLANGE RATING ¦ FACING		*150* ¦ *RF*	¦	¦
MAXIMUM PRESSURE DROP	PSI / %	*(4)* ¦ *(4)*	¦	¦
API ALLOWABLE PRESSURE DROP	%	*3*		
INLET PIPING PRESSURE DROP		*(4)*		

OUTLET PIPING SUMMARY

TAG NUMBER		*PSV-41003*		
FLOW FOR ΔP CALCS	LB/HR	*10,483,200*		
OUTLET LINE SIZE	IN	*3*		
ANSI FLANGE RATING ¦ FACING		*150* ¦ *RF*	¦	¦
MAX TOTAL BACKPRESSURE	PSIG	*(4)*		
OUTLET PIPING MAX. PRESSURE		*(4)*		
MIN. DESIGN TEMPERATURE	°F	*-20*		
MIN. POSSIBLE TEMPERATURE	°F	*116*		
OUTLET PIPING MIN. TEMPERATURE		*Acceptable*		

PSV Calculation Summary Sheet

WorleyParsons

bp

Customer	BP Exploration & Production Inc	**Proj No.**	15646105
Project Title	BP Gulf of Mexico Offshore Facilities	**BP Calc No.**	1440-20-PR-CA-0003-016
PSV Tag No.	PSV-41003	**WP Calc No.**	156461-10-PR-CAL-0015
		CTR No.	13601

Rev	Date	By	Checked	Approved
0	19-Aug-10	L. Alvarez	J. Smith	A. Garzon

SUMMARY

1) Valves capacity is inadequate
2) Minimum outlet relief temperature is 116 °F based on the scenario "Power failure 16" Check valve failure" assuming an adiabatic flash across the PSV to a minimum HP flare header pressure of 0.5 psig.

RECOMMENDATIONS

NOTES

1. The minimum constant backpressure superimposed by the H.P. Flare Header is assumed to be 0.5 psig.
2. The maximum variable backpressure superimposed by the H.P. Flare Header is assumed to be 69.5 psig.
3. Minimum outlet relief temperature is 116 °F based on the scenario "Power failure 16" Check valve failure" assuming an adiabatic flash across the PSV to a minimum HP flare header pressure of 0.5 psig.
4. The inlet and outlet piping losses were not calculated for the controlling scenario since the installed valve is not adequate.
5. Custom Manufacturer full bore orifice. This full bore orifice signifies 2.895 in^2 and has no API equivalent.
6. In the event of pilot failure, the pressure rating of the outlet piping (150#) is not exceeded because the PSV inlet piping is 150#.

NEEDS

PSV Calculation Summary Sheet

WorleyParsons

Customer	BP Exploration & Production Inc	**Proj No.**	15646105
Project Title	BP Gulf of Mexico Offshore Facilities	**BP Calc No.**	1440-20-PR-CA-0003-016
PSV Tag No.	PSV-41003	**WP Calc No.**	156461-10-PR-CAL-0015
		CTR No.	13601

Rev	Date	By	Checked	Approved	Note: All documents referenced in and attached to this calculation package are valid only at the time of calculation and are not controlled copies.
0	19-Aug-10	L. Alvarez	J. Smith	A. Garzon	

DOCUMENTATION

1) PFD Crude Oil Handling, Dwg. No. 1440-20-PR-DG-4063, Rev. 0
2) P&ID Pipeline Pumps, Dwg. No. 1440-20-PI-DG-4389, Rev. 9
3) P&ID Pipeline Pumps & Recycle Cooler, Dwg. No. 1440-20-PI-DG-4390, Rev. 11
4) P&ID Export Oil Cooler, Dwg. No. 1440-20-PI-DG-4386A, Rev. 5
5) P&ID Oil Pipleine Pig Launcher, Dwg. No. 1440-20-PI-DG-4391, Rev. 7
6) P&ID Crude Buy Back & Pigging Meters, Dwg. No. 1440-20-PI-DG-4388, Rev. 6
7) Isometric line 16"-PL-D-2118, Rev. 0
8) Isometric line 16"-PL-D-3254, Rev. 0
9) Isometric line 3"-PL-A-3213, Rev. 0
10) Isometric line 4"-FH-A-5251, Rev. 0
11) Atlantis Topsides Piping Specification, Doc. No. 1440-20-PI-SP-3200, Rev. 6. Piping Specification A, F and D
12) Tyco Flow Control , Comparison of API vs ASME Coefficient of discharge
13) Certified Drawing for PSV-41003
14) Field test report for PSV-41003
15) Oil Pipeline Pump Datasheet for PAX-4111/ 4121 / 4131 / 4141
16) Atlantis HYSYS model "CASE 3B DAY2473I(135F) - 2009 UPDATE PHASE 2 30MAR10.HSC" Inlet for Pipeline Pumps stream "16I" and Outlet for Pipeline Pumps stream "17"
17) Atlantis valve description D5JWX
18) Goodwing International drawing for 16" check valve
19) Manual valve datasheet SP-331, 18" check valve
20) Tyco email, subject:"RE:PSV information", August 05, 2010

iPRSM

Protected System Contingency Summary

Plant: BP GOM
Unit: Atlantis
WS Version: 1.1.5.3
Reported: 2010-08-19

Protecting Equipment: PSV-41003
System Status: Mitigate
Protected System: **Inlet to PAX pumps**

Contingency	Required Capacity	Vap. Mass Fraction	Relief Pressure	Relief Temp.	Mol. Wt.	Specific Gravity	Sp. Heat Ratio	Compr.	Viscosity	Required ASME Area	Contingency Max. Rel. Cap.
Blocked Outlet	N/A										
Abnormal Heat Input	N/A										
Exchanger Tube Rupture	N/A										
Automatic Control Failure	N/A										
Reflux Failure	N/A										
Fire	N/A										
Cooling Faiture	N/A										
Power Failure - 16" Check valve failure Given Flow Rate - Liquid	4969800 lbm/hr	0	289.7 psia	114.07 °F	-	0.83003	-	-	6.9839 cP	28.163 in²	510864 lbm/hr
Power Failure - 18" Check valve failure Given Flow Rate - Liquid	1.0483e+7 lbm/hr	0	289.7 psia	129.97 °F	-	0.82822	-	-	5.4759 cP	59.472 in²	510305 lbm/hr
Instrument Air Failure	N/A										
Inadvertent Valve Opening	N/A										
Mech. Equip. Failure	N/A										
Series Fractionation	N/A										
Thermal	N/A										
Loss of Quench	N/A										
Chemical Reaction	N/A										
Steam Out	N/A										
Other	N/A										

Revision History

Rev. Stage:	As At:	Signoff By:	Prepared By:	Approved By:	Accepted By:
Approved	2010-08-19		Alvarez, Luis	Smith, Jim	

Protected System Contingency Analysis

Unit: Atlantis
Plant: BP GOM
Reported: 2010-08-19

Protecting Equipment: PSV-41003
System Status: Mitigate
Protected System: **Inlet to PAX pumps**

Revision History

Rev. Stage:	As At:	Signoff By:	Prepared By:	Approved By:	Accepted By:
Approved	2010-08-19		Alvarez, Luis	Smith, Jim	

#	Contingency Type	Req'd ASME Area or Flow	Inlet Drop / Back Press.	Apply / Vibr'n Ok	Status
1	Blocked Outlet			N/A	
	2010-06-18 12:19:40 - Luis Alvarez None of the incoming streams have sufficient pressure to cause relief.				
2	Abnormal Heat Input			N/A	
	2010-06-18 12:19:40 - Luis Alvarez The protected system is not susceptible to abnormal heat or vapor input.				
3	Exchanger Tube Rupture			N/A	
	2010-07-26 17:27:38 - Luis Alvarez The relief device is on the high-pressure side of the exchanger; therefore, tube rupture will not cause relief.				
4	Automatic Control Failure			N/A	
	2010-06-18 12:19:40 - Luis Alvarez There are no control valves in the protected system.				
5	Reflux Failure			N/A	
	2010-06-18 12:19:40 - Luis Alvarez There is no reflux in the protected system.				
6	Fire			N/A	
	2010-06-18 12:19:40 - Luis Alvarez The protected system contains no equipment that requires fire case relief protection.				
7	Cooling Failure			N/A	
	2010-06-18 12:19:40 - Luis Alvarez There is no coolant that will affect the protected system.				
8	Power Failure - 16" Check valve failure Given Flow Rate - Liquid	28.163 in²	N/A	Yes N/A	Pipe.Ok
	Critical: WSLIB.5002: Required area 28.163 in2 exceeds current area 2.895 in2 Warning: WSLIB.5082: PBuiltUpBack undefined for (BP GOM > Atlantis > PSV-41003) Warning: WSLIB.5079: Estimated built up backpressure not defined by protecting data or scenario, using 0 PSIG				
	2010-07-26 18:00:15 - Luis Alvarez Power failure may cause shutdown of the Pipeline Pumps and reverse flow from the pipeline is possible with the failure of check valves in the pumps discharge line. If not credit is taken for the XV at the discharge line and SDV in the suction line. Then reverse flow could generate back flow to the line 16"-PL-A-3254 assuming flow through 10 % of the area of one of the 16" check valves. Refer Appendix C for flow calculation.				
9	Power Failure - 18" Check valve failure Given Flow Rate - Liquid	59.472 in²	N/A	Yes N/A	Pipe.Ok
	Critical: WSLIB.5002: Required area 59.472 in2 exceeds current area 2.895 in2 Warning: WSLIB.5082: PBuiltUpBack undefined for (BP GOM > Atlantis > PSV-41003) Warning: WSLIB.5079: Estimated built up backpressure not defined by protecting data or scenario, using 0 PSIG Warning: WSLIB.63114: Bulk phase selected, assuming that only liquid phases are being relieved. Warning: WSLIB.63125: Specific gravity 0.82822 sp gr is computed from bulk density of 51.602 lbm/ft3				
	2010-07-26 18:00:15 - Luis Alvarez Power failure may cause shutdown of the Pipeline Pumps and reverse flow from the pipeline is possible with the failure of check valves in the pumps discharge line. As per GP-44-70 "the reverse flow leakage rate shall be based on calculated flow through a single orifice with a flow area equal to 10% of the largest check valve flow area". The largest check valve is an 18" diameter. For this scenario no credit is taken for closer of the XV in the discharge line and the SDV in the suction line. The two 16" check valves in the				

	line 16"-PL-A-3254 may or may not be leaking Therefore PSV-4111(or/and PSV-4211/41311/41411) on the inlet piping to pipeline pump may relieve and then PSV-41003 would need to have the capacity to relieve the flow that should be equal to the flow passing through the 18" check valve based on 10% of its area. Refer Appendix C for flow calculation.				
10	Instrument Air Failure			N/A	
	2010-07-26 17:28:34 - Luis Alvarez A total loss of instrument air with all control valves failing to their fail-safe position will not cause relief.				
11	Inadvertent Valve Opening			N/A	
	2010-06-18 12:19:40 - Luis Alvarez The opening of any individual valve, which is normally closed, will not cause relief.				
12	Mech. Equip. Failure			N/A	
	2010-06-18 12:19:40 - Luis Alvarez Failure of mechanical equipment will not cause relief.				
13	Series Fractionation			N/A	
	2010-06-18 12:19:40 - Luis Alvarez The protected system does not involve series fractionation.				
14	Thermal			N/A	
	2010-06-18 12:19:40 - Luis Alvarez Thermal relief is possible if the system is deenergized, blocked in and heated. However, the expected flow rate due to thermal relief is much smaller than any other scenario and is therefore not calculated.				
15	Loss of Quench			N/A	
	2010-06-18 12:19:40 - Luis Alvarez There is no quench or cold feed in the protected system.				
16	Chemical Reaction			N/A	
	2010-06-18 12:19:40 - Luis Alvarez The possibility of a chemical reaction occurring in the protected system is so unlikely that it is not considered for this study.				
17	Steam Out			N/A	
	2010-06-18 12:19:40 - Luis Alvarez Steam out of this system is highly unlikely.				
18	Other			N/A	
	2010-07-27 09:37:17 - Luis Alvarez No other relief contingencies have been identified for this system.				

Protected System Contingency Analysis	Protected System: Inlet to PAX pumps	iPRSM / PEC Lab 1.1.5.15:0 2010-08-19 12:39:53

iPRSM

Protected System Summary

Plant: BP GOM
Unit: Atlantis
Reported: 2010-08-19

Protecting Equipment:	System Status:	Protected System:
PSV-41003	Mitigate	**Inlet to PAX pumps**

Revision History

Rev. Stage:	As At:	Signoff By:	Prepared By:	Approved By:	Accepted By:
Approved	2010-08-19		Alvarez, Luis	Smith, Jim	

Rev. Status	Rev. #	Rev. Stage	Rev. Date	Prepared By	Approved By	Accepted By
Active	0	Approved	2010-08-19	Alvarez, Luis	Smith, Jim	
Closed	A	Approved	2010-08-06	Alvarez, Luis	Smith, Jim	

Relief Devices

Equipment ID #	Type	Serial #	P_{set} & P^{vac}_{set}	ASME Area or P/V Flows	Adequate?	Status
PSV-41003	Relief Valve	05/49261	250 psig	2.895 in²	No	Eval'd
Critical: PRSM.270120: Relief system has scenarios or piping losses with critical trouble.						

Protected Equipment

Equipment ID #	Type	Serial #	MAWP	Protected?	Status
16"-PL-A-3254	Pipe - Protected		255 psig	No	Eval'd
Critical: PRSM.240103: 16"-PL-A-3254 protecting valves are not all adequate.					

OVP Sources

Equipment ID #	Type	Status
There are no OVP Sources in this Protected System.		

Ancilliary Equipment

Equipment ID #	Type	Status
There is no Ancilliary Equipment in this Protected System.		

Compound Streams

Stream	Compound(s)	Ok
Oil	METHANE (0.09 Mole %) ETHANE (0.31 Mole %) PROPANE (2.06 Mole %) ISOBUTANE (0.9 Mole %) n-BUTANE (3.84 Mole %) ISOPENTANE (2.59 Mole %) n-PENTANE (3.54 Mole %) /C6s (7.62 Mole %) /C7s (2.95 Mole %) /C8s (3.44 Mole %) /C9s (2.62 Mole %) /C10s (2.4 Mole %) /C11s (2 Mole %) /C12s (1.76 Mole %) /C13s (1.72 Mole %) /C14-16-18 (0.28 Mole %) /C14-C18 (6.17 Mole %) /C19-C24 (4.33 Mole %) /C7s-C10s (11.57 Mole %) /C11s-C15s (12.45 Mole %) /C16s-C21s (8.05 Mole %) /C22s-C30s (10.77 Mole %) /C25-11 (0.68 Mole %) /C25-21 (2.78 Mole %) /C25-23 (0.99 Mole %) /c25-42 (2.49 Mole %) /c25-143 (1.53 Mole %) WATER (0.07 Mole %)	Yes

EXHIBIT 99

June 15, 2008

ROOT CAUSE FAILURE ANALYSIS REPORT

Gas Turbine Generator ZAN-5000 Shutdown

PURPOSE:

On June 8, 2008, #1 Gas Turbine Generator, ZAN-5000, shutdown without command or intention causing a T5.4 trip on #2 Gas Turbine Generator and ultimately a complete loss of power and production shut-in.

No formal RCFA Team was put together for this effort. Instead, information was gathered from several sources both on and offshore. Additionally, a process of "Defect Elimination" was developed. This process established a list of pertinent questions concerning the event and solicited input from all members of the Atlantis Team who had knowledge or experience with the Gas Turbines, Electrical Distribution, DCS, Electronic Load Shed, etc. It also asked for input from the Team on ideas for how this type of event can be prevented in the future.

The Maintenance Team Leader was assigned the Action Item to gather, compile and organize the provided information and to create this document.

SUMMARY OF EVENT:

1415:42 - Fuel Gas Supply Shutdown Valve (SDV-50011) for #1 Generator changed status and began to close.
1415:48 - The Turbine Control Panel (TCP) for #1 Generator sent an open command to the Liquid Fuel Supply Shutdown Valve (SDV-50001).
1415:49 - A Low Fuel Gas Pressure Alarm (AL0152) was received and SDV-50011 was confirmed closed.
1415:55 - TCP #1 indicated that SDV-50001 was opening.
1415:56 - TCP #2 alarmed with a Fuel Control Fault and High Turbine Inlet Temperature (T5.4) Overtemp.
1415:57 - TCP #1 indicated that the Diesel Fuel Supply Pump was running.
1415:58 - TCP #2 trips #2 Generator in response to the High T5.4 condition.
1415:58 - Electronic Load Shed System trips VRU #1 when Generator Breaker #2 trips.
1415:59 - TCP #1 trips #1 Generator prior to it coming back up to speed while trying to shift liquid fuel.

PQ goes dark.

INFORMATION:

The following questions were developed to aid in the elimination of this type of event.

1. Question #1 was: T-Gen #1 Shutdown when Fuel Gas Supply SDV closed; Why?
    a. The Fuel Gas SDV initially faulted due to the air supply being bled off of the valve. The bleed valve was apparently accidentally affected (nudged open) during work being conducted beneath the generator.
    b. The loss of Fuel Gas Pressure initiated the shift from Gas to Liquid Fuel.
2. Question #2 was: T-Gen #1 did not shift to Liquid Fuel; Why?
    a. As shown in the event log, the shift to Liquid Fuel was actually in progress. However, the time to shift exceeds the time that was available during the event.
3. Question #3 was: T-Gen #2 took the full load and then shutdown; Why?
    a. The nature of generators operating in parallel is such that if one slows down, the other, still at load speed will assume the load. The #2 Generator, as demonstrated in the event log, picked up the load all the way to a High Temperature trip on the turbine. This occurred so fast that the control system had no opportunity to protect itself prior to tripping off line.
4. Question #4 was: Load Shed did not work: Why?
    a. The Electronic Load Shed has two trigger events; either of which can cause the system to be activated. These are 1) opening of the generator breaker and 2) a normal stop being initiated.

EXHIBIT 100

From: Ragan, Frank
Sent: Monday, February 11, 2008 1:38:15 PM
To: Dean, Wayne (TECHNIP)
CC: Young, Brian J; Oza, Nita; Berger, Ron K (Manatee); Vass, Malcolm (Technip); Reynolds, Brandon (Technip)
Subject: RE: Black start on the 10th Feb

Wayne,

Cabinets CAB-J311 and CAB-J326 get 24VDC from DPE-5504-A and DPN-5504-B (shown on your attached drawing). These are chargers, one on the emergency bus and the other on normal, that feed separate battery banks. Neither of those supplies should lose power during a turbine trip (the DPN goes on batteries), and we witnessed no problems with the other equipment on the same supplies (the topsides' ESS and PSS are fed from the same distribution panels).

As for shutdown events, the capture below is from the Topsides' Experion Server (I have extracted sections of the event file that are not contiguous, we had thousands of events at the time of the shutdown):

11-Feb-08 12:05:36 RPT001: ALMEVT : Demanded : Page 5

Time	Source	Condition	Level		
Description		Value	Units	Operator	
10-Feb-08 09:24:56.207	**ATT_XY000504_STS**	**CHANGE**	**J 00**	**PSD SIGNAL TO SUBSEA**	**DE-ENERG**
10-Feb-08 09:24:56.207	ATT_GRP_0003_01_STS	CHANGE	J 00	PROCESS SHUTDOWN	PSD
10-Feb-08 09:24:56.207	ATT_GRP_0005_04_STS	CHANGE	J 00	PSD SIGNAL TO SUBSEA	GRP_TRIP
10-Feb-08 09:24:57.207	ATT_XY000506_STS	CHANGE	J 00	TEST RISER (T) S/D TO SUBSEA	DE-ENERG
10-Feb-08 09:24:57.207	ATT_XY000526_STS	CHANGE	J 00	TOPSIDES OSD TO SS	DE-ENERG
10-Feb-08 09:24:57.207	ATT_XY000512_STS	CHANGE	J 00	RISER P2 S/D TO SUBSEA	DE-ENERG
10-Feb-08 09:24:57.207	ATT_XY000514_STS	CHANGE	J 00	RISER P3 S/D TO SUBSEA	DE-ENERG
10-Feb-08 09:24:57.207	ATT_XY000510_STS	CHANGE	J 00	RISER P1 S/D TO SUBSEA	DE-ENERG
10-Feb-08 09:24:57.207	ATT_XY000503_STS	CHANGE	J 00	WTR INJ RSR PSL TO SUBSEA	DE-ENERG
10-Feb-08 09:24:57.207	ATT_GRP_0005_06_STS	CHANGE	J 00	TEST RIST (T) S/D TO SUBSEA	GRP_TRIP
10-Feb-08 09:24:57.207	ATT_GRP_0005_03_STS	CHANGE	J 00	WATER INJ RISER S/D TO SUBSEA	GRP_TRIP
10-Feb-08 09:24:57.207	ATT_GRP_0005_14_STS	CHANGE	J 00	PROD RISER (P3) S/D TO SUBSEA	GRP_TRIP
10-Feb-08 09:24:57.207	ATT_GRP_0005_10_STS	CHANGE	J 00	PROD RISER (P1) S/D TO SUBSEA	GRP_TRIP
10-Feb-08 09:24:57.207	ATT_GRP_0005_12_STS	CHANGE	J 00	PROD RISER (P2) S/D TO SUBSEA	GRP_TRIP
10-Feb-08 09:24:57.207	ATT_GRP_0005_26_STS	CHANGE	J 00	TOPSIDES OSD TO SS	GRP_TRIP

And then from the Subsea Experion Server:

11-Feb-08 12:09:13 RPT002: ALMEVT : Demanded : Page 4

Time	Source	Condition	Level	
Description	Value	Units	Operator	
10-Feb-08 09:24:57.000	ATS_YY12372	ALARM	U 00	DC-123 WELL PIPELINE SD SHUTDOWN
10-Feb-08 09:24:57.000	ATS_YY14372	ALARM	U 00	DC-143 WELL PIPELINE SD SHUTDOWN
10-Feb-08 09:24:57.000	ATS_XV14309_INTLK	ALARM	J 00	DC-143 MEOH TREE -

```
UPSTREAM CHOKE [CITV2)          INTLK
 10-Feb-08  09:24:57.000 ATS_XV14309_SD                 ALARM                J 00  DC-143 MEOH TREE -
UPSTREAM CHOKE [CITV2)          SD
 10-Feb-08  09:24:57.000 ATS_XV14311_INTLK              ALARM                J 00  DC-143 PARAFFIN
INHIBITOR - TREE (CITV1)          INTLK
 10-Feb-08  09:24:57.000 ATS_XV14311_SD                 ALARM                J 00  DC-143 PARAFFIN
INHIBITOR - TREE (CITV1)          SD
 10-Feb-08  09:24:57.000 ATS_YYSC005                    ALARM                U 00  TEST FL T PSL
SD                                SHUTDOWN
 10-Feb-08  09:24:57.000 ATS_YYSC006                    ALARM                U 00  TEST FL T
PSD                                    SHUTDOWN
 10-Feb-08  09:24:57.000 ATS_YYSC003                    ALARM                U 00  WATER INJ FL W2 PSL
SD                                SHUTDOWN
 10-Feb-08  09:24:57.000 ATS_YYSC004                    ALARM                U 00  PSD FROM
TOPSIDES                                SHUTDOWN
 10-Feb-08  09:24:57.000 ATS_XYSC003                    CHANGE               J 00  WATER INJ FL W2 PSL
SD                                SHUTDOWN
 10-Feb-08  09:24:57.000 ATS_XYSC004                    CHANGE               J 00  TOPSIDES
PSD                                    SHUTDOWN
 10-Feb-08  09:24:58.000 ATS_XV12309_INTLK              ALARM                J 00  DC-123 MEOH TREE -
UPSTREAM CHOKE [CITV2)          INTLK
 10-Feb-08  09:24:58.000 ATS_XV12309_SD                 ALARM                J 00  DC-123 MEOH TREE -
UPSTREAM CHOKE [CITV2)          SD
 10-Feb-08  09:24:58.000 ATS_XV12311_INTLK              ALARM                J 00  DC-123 PARAFFIN
INHIBITOR - TREE (CITV1)          INTLK
 10-Feb-08  09:24:58.000 ATS_XV12311_SD                 ALARM                J 00  DC-123 PARAFFIN
INHIBITOR - TREE (CITV1)          SD
 10-Feb-08  09:24:58.000 ATS_HCV12317_SD                ALARM                J 00  DC-123  CHOKE
SHUTDOWN                          SD
 10-Feb-08  09:24:58.000 ATS_YY12472                    ALARM                U 00  DC-124 WELL PIPELINE
SD                           SHUTDOWN
 10-Feb-08  09:24:58.000 ATS_HCV12417_STEPMODE          CHANGE               J 00  DC-124  CHOKE
STEPMODE                          STEPCLOS
 10-Feb-08  09:24:58.000 ATS_XV12409_INTLK              ALARM                J 00  DC-124 MEOH TREE -
UPSTREAM CHOKE [CITV2)          INTLK
 10-Feb-08  09:24:58.000 ATS_XV12409_SD                 ALARM                J 00  DC-124 MEOH TREE -
UPSTREAM CHOKE [CITV2)          SD
 10-Feb-08  09:24:58.000 ATS_XV12411_INTLK              ALARM                J 00  DC-124 PARAFFIN
INHIBITOR - TREE (CITV1)          INTLK
 10-Feb-08  09:24:58.000 ATS_XV12411_SD                 ALARM                J 00  DC-124 PARAFFIN
INHIBITOR - TREE (CITV1)          SD
 10-Feb-08  09:24:58.000 ATS_HCV12417_INTLK             ALARM                J 00  DC-124  CHOKE
INTERLOCK                         INTLK
 10-Feb-08  09:24:58.000 ATS_HCV12417_SD                ALARM                J 00  DC-124  CHOKE
SHUTDOWN                          SD
 10-Feb-08  09:24:58.000 ATS_HCV14317_INTLK             ALARM                J 00  DC-143  CHOKE
INTERLOCK                         INTLK
 10-Feb-08  09:24:58.000 ATS_HCV14317_SD                ALARM                J 00  DC-143 CHOKE
SHUTDOWN                           SD
 10-Feb-08  09:24:58.000 ATS_HCV14317_STEPMODE          CHANGE               J 00  DC-143 CHOKE
STEPMODE                           STEPCLOS
 10-Feb-08  09:24:58.000 ATS_SC006_A2                   CHANGE               J 00  RISER TEST T PROCESS
SHUTDOWN A2                   SHUTDOWN
 10-Feb-08  09:24:58.000 ATS_SC005_A2                   CHANGE               J 00  RISER TEST T PSL
SHUTDOWN A2                        SHUTDOWN
 10-Feb-08  09:24:58.000 ATS_MANFLD00_MENU              CHANGE               J 00  SHUTDOWN ACTIVE ON
MANIFOLD PAGE 00                SHUTDOWN
 10-Feb-08  09:24:58.000 ATS_MANFLD03_MENU              CHANGE               J 00  SHUTDOWN ACTIVE ON
MANIFOLD PAGE 03                SHUTDOWN
 10-Feb-08  09:25:00.000 ATS_XV12310_INTLK              ALARM                J 00  DC-123 MEOH TREE -
DOWNSTREAM CHOKE (CITV3)          INTLK
 10-Feb-08  09:25:01.000 ATS_XV12307_SD                 ALARM                J 00  DC-123 ASPHALTENE
DOWNHOLE (CIDV3)                   SD
 10-Feb-08  09:25:01.000 ATS_XV12308_SD                 ALARM                J 00  DC-123 CORR SCALE
INHIBITOR - DOWNHOLE (CIDV1)      SD
 10-Feb-08  09:25:01.000 ATS_DC123_A3                   CHANGE               J 00  DC-123 A3
SHUTDOWN                                    SHUTDOWN
 10-Feb-08  09:25:01.000 ATS_DC124_A2                   CHANGE               J 00  DC-124 A2
SHUTDOWN                                    SHUTDOWN
 10-Feb-08  09:25:01.000 ATS_XV12407_SD                 ALARM                J 00  DC-124 ASPHALTENE
DOWNHOLE (CIDV3)                   SD
 10-Feb-08  09:25:01.000 ATS_XV12408_SD                 ALARM                J 00  DC-124 CORR SCALE
INHIBITOR - DOWNHOLE (CIDV1)      SD
 10-Feb-08  09:25:01.000 ATS_XV12410_INTLK              ALARM                J 00  DC-124 MEOH TREE -
DOWNSTREAM CHOKE (CITV3)          INTLK
 10-Feb-08  09:25:01.000 ATS_HCV12417_STAT              ALARM                H 00  DC-124  CHOKE
STATUS                            UNDETER
 10-Feb-08  09:25:01.000 ATS_DC143_A3                   CHANGE               J 00  DC-143 A3
SHUTDOWN                                    SHUTDOWN
```

10-Feb-08 09:25:01.000 ATS_XV14307_SD ALARM J 00 DC-143 ASPHALTENE DOWNHOLE (CIDV3) SD
10-Feb-08 09:25:01.000 ATS_XV14308_SD ALARM J 00 DC-143 CORR SCALE INHIBITOR - DOWNHOLE (CIDV1) SD
10-Feb-08 09:25:01.000 ATS_XV14310_INTLK ALARM J 00 DC-143 MEOH TREE - DOWNSTREAM CHOKE (CITV3) INTLK
10-Feb-08 09:25:01.000 ATS_SC004_A2 CHANGE J 00 WI FLOWLINE W2 PROCESS SHUTDOWN A2 SHUTDOWN
10-Feb-08 09:25:01.000 ATS_MANFLD02_MENU CHANGE J 00 SHUTDOWN ACTIVE ON MANIFOLD PAGE 02 SHUTDOWN
10-Feb-08 09:25:01.000 ATS_XYSC026 CHANGE J 00 TOPSIDES OSD SHUTDOWN
10-Feb-08 09:25:01.000 ATS_YYSC010 ALARM U 00 PROD FL P1 PSD SHUTDOWN
10-Feb-08 09:25:01.000 ATS_YYSC012 ALARM U 00 PROD FL P2 PSD SHUTDOWN
10-Feb-08 09:25:01.000 ATS_YYSC014 ALARM U 00 PROD FL P3 PSD SHUTDOWN
10-Feb-08 09:25:01.000 ATS_XYSC006 CHANGE J 00 TEST FL T PSD SHUTDOWN
10-Feb-08 09:25:01.000 ATS_XYSC019 CHANGE J 00 CORR/SCALE INJ VALVE SD SHUTDOWN
10-Feb-08 09:25:01.000 ATS_XYSC020 CHANGE J 00 ASPH INJ VALVE SD SHUTDOWN
10-Feb-08 09:25:01.000 ATS_XYSC010 CHANGE J 00 PROD FL P1 PSD SHUTDOWN
10-Feb-08 09:25:01.000 ATS_XYSC012 CHANGE J 00 PROD FL P2 PSD SHUTDOWN
10-Feb-08 09:25:01.000 ATS_XYSC014 CHANGE J 00 PROD FL P3 PSD SHUTDOWN
10-Feb-08 09:25:01.000 ATS_YYSC019 ALARM U 00 CORR/SCALE INJ VALVE SD SHUTDOWN
10-Feb-08 09:25:01.000 ATS_YYSC020 ALARM U 00 ASPH INJ VALVE SD SHUTDOWN
10-Feb-08 09:25:04.000 ATS_HCV11117_SD ALARM J 00 DC-111 CHOKE SHUTDOWN SD
10-Feb-08 09:25:04.000 ATS_PI11135 PVLO OK H 00 DC-111 CHOKE UPSTREAM PRESSURE 2357.8 PSIA
10-Feb-08 09:25:04.000 ATS_XV11107_SD ALARM J 00 DC-111 ASPHALTENE DOWNHOLE (CIDV3) SD
10-Feb-08 09:25:04.000 ATS_XV11108_SD ALARM J 00 DC-111 CORR SCALE INHIBITOR - DOWNHOLE (CIDV1) SD
10-Feb-08 09:25:04.000 ATS_XV11109_INTLK ALARM J 00 DC-111 MEOH TREE - UPSTREAM CHOKE [CITV2] INTLK
10-Feb-08 09:25:04.000 ATS_XV11109_SD ALARM J 00 DC-111 MEOH TREE - UPSTREAM CHOKE [CITV2] SD
10-Feb-08 09:25:04.000 ATS_XV11111_SD ALARM J 00 DC-111 PARAFFIN INHIBITOR - TREE (CITV1) SD
10-Feb-08 09:25:04.000 ATS_YY11172 ALARM U 00 DC-111 WELL PIPELINE SD SHUTDOWN
10-Feb-08 09:25:04.000 ATS_YY11173 ALARM U 00 DC-111 WELL FLOWLINE PSL SHUTDOWN
10-Feb-08 09:25:04.000 ATS_DC111_A5 CHANGE J 00 DC-111 A5 SHUTDOWN SHUTDOWN
10-Feb-08 09:25:04.000 ATS_DC111_A10 CHANGE J 00 DC-111 A10 SHUTDOWN SHUTDOWN
10-Feb-08 09:25:04.000 ATS_XV11207_SD ALARM J 00 DC-112 ASPHALTENE DOWNHOLE (CIDV3) SD
10-Feb-08 09:25:04.000 ATS_XV11208_SD ALARM J 00 DC-112 CORR SCALE INHIBITOR - DOWNHOLE (CIDV1) SD
10-Feb-08 09:25:04.000 ATS_XV11209_INTLK ALARM J 00 DC-112 MEOH TREE - UPSTREAM CHOKE [CITV2] INTLK
10-Feb-08 09:25:04.000 ATS_XV11209_SD ALARM J 00 DC-112 MEOH TREE - UPSTREAM CHOKE [CITV2] SD
10-Feb-08 09:25:04.000 ATS_HCV11217_SD ALARM J 00 DC-112 CHOKE SHUTDOWN SD
10-Feb-08 09:25:04.000 ATS_XV11307_SD ALARM J 00 DC-113 ASPHALTENE DOWNHOLE (CIDV3) SD
10-Feb-08 09:25:04.000 ATS_XV11308_SD ALARM J 00 DC-113 CORR SCALE INHIBITOR - DOWNHOLE (CIDV1) SD
10-Feb-08 09:25:04.000 ATS_XV11309_INTLK ALARM J 00 DC-113 MEOH TREE - UPSTREAM CHOKE [CITV2] INTLK
10-Feb-08 09:25:04.000 ATS_XV11309_SD ALARM J 00 DC-113 MEOH TREE - UPSTREAM CHOKE [CITV2] SD
10-Feb-08 09:25:04.000 ATS_XV11311_SD ALARM J 00 DC-113 PARAFFIN INHIBITOR - TREE (CITV1) SD
10-Feb-08 09:25:04.000 ATS_HCV11317_INTLK ALARM J 00 DC-113 CHOKE INTERLOCK INTLK
10-Feb-08 09:25:04.000 ATS_HCV11317_SD ALARM J 00 DC-113 CHOKE

```
SHUTDOWN                              SD
 10-Feb-08  09:25:04.000 ATS_DC113_A5                    CHANGE                    J 00  DC-113 A5
SHUTDOWN                                  SHUTDOWN
 10-Feb-08  09:25:04.000 ATS_DC113_A10                   CHANGE                    J 00  DC-113 A10
SHUTDOWN                                  SHUTDOWN
 10-Feb-08  09:25:04.000 ATS_PI12463                     PVHI                      H 00  DC-124 LP RETURN
PRESSURE                           3168.73            PSIA
 10-Feb-08  09:25:04.000 ATS_PI12464                     PVHI                      H 00  DC-124 HP RETURN
PRESSURE                           3107.9             PSIA
 10-Feb-08  09:25:04.000 ATS_XV12407_INTLK               ALARM                     J 00  DC-124 ASPHALTENE
DOWNHOLE (CIDV3)                  INTLK
 10-Feb-08  09:25:04.000 ATS_XV12408_INTLK               ALARM                     J 00  DC-124 CORR SCALE
INHIBITOR - DOWNHOLE (CIDV1)      INTLK
 10-Feb-08  09:25:05.000 ATS_XV11211_SD                  ALARM                     J 00  DC-112 PARAFFIN
INHIBITOR - TREE (CITV1)           SD
 10-Feb-08  09:25:05.000 ATS_YY11272                     ALARM                     U 00  DC-112 WELL PIPELINE
SD                                SHUTDOWN
 10-Feb-08  09:25:05.000 ATS_YY11273                     ALARM                     U 00  DC-112 WELL FLOWLINE
PSL                               SHUTDOWN
 10-Feb-08  09:25:05.000 ATS_DC112_A5                    CHANGE                    J 00  DC-112 A5
SHUTDOWN                                  SHUTDOWN
 10-Feb-08  09:25:05.000 ATS_DC112_A10                   CHANGE                    J 00  DC-112 A10
SHUTDOWN                                  SHUTDOWN
 10-Feb-08  09:25:05.000 ATS_YY11372                     ALARM                     U 00  DC-113 WELL PIPELINE
SD                                SHUTDOWN
 10-Feb-08  09:25:05.000 ATS_YY11373                     ALARM                     U 00  DC-113 WELL FLOWLINE
PSL                               SHUTDOWN
 10-Feb-08  09:25:05.000 ATS_XV12307_INTLK               ALARM                     J 00  DC-123 ASPHALTENE
DOWNHOLE (CIDV3)                  INTLK
 10-Feb-08  09:25:05.000 ATS_XV12308_INTLK               ALARM                     J 00  DC-123 CORR SCALE
INHIBITOR - DOWNHOLE (CIDV1)      INTLK
 10-Feb-08  09:25:05.000 ATS_XV14307_INTLK               ALARM                     J 00  DC-143 ASPHALTENE
DOWNHOLE (CIDV3)                  INTLK
 10-Feb-08  09:25:05.000 ATS_XV14308_INTLK               ALARM                     J 00  DC-143 CORR SCALE
INHIBITOR - DOWNHOLE (CIDV1)      INTLK
 10-Feb-08  09:25:06.000 ATS_XV11107_INTLK               ALARM                     J 00  DC-111 ASPHALTENE
DOWNHOLE (CIDV3)                  INTLK
 10-Feb-08  09:25:06.000 ATS_XV11108_INTLK               ALARM                     J 00  DC-111 CORR SCALE
INHIBITOR - DOWNHOLE (CIDV1)      INTLK
 10-Feb-08  09:25:06.000 ATS_XV11207_INTLK               ALARM                     J 00  DC-112 ASPHALTENE
DOWNHOLE (CIDV3)                  INTLK
 10-Feb-08  09:25:06.000 ATS_XV11208_INTLK               ALARM                     J 00  DC-112 CORR SCALE
INHIBITOR - DOWNHOLE (CIDV1)      INTLK
 10-Feb-08  09:25:06.000 ATS_HCV14317_STAT               ALARM                     H 00  DC-143 CHOKE
STATUS                              UNDETER
 10-Feb-08  09:25:07.000 ATS_HCV11117_STAT               ALARM                     H 00  DC-111  CHOKE
STATUS                             UNDETER
 10-Feb-08  09:25:07.000 ATS_PI11135                     PVLO             OK       H 00  DC-111 CHOKE UPSTREAM
PRESSURE                         2364.16
```

What I see from all of this is that the topsides initiated shutdowns (PSD and OSD) and the MCS received those signals. I see the ATS_YYxxx72 PIPELINE SD for all six wells, so there were trips initiated for all six.

Frank

-----Original Message-----
From: WDean@technip.com [mailto:WDean@technip.com]
Sent: Monday, February 11, 2008 9:32 AM
To: Ragan, Frank
Cc: Young, Brian J; Oza, Nita; Berger, Ron K (Manatee); Vass, Malcolm (Technip); Reynolds, Brandon (Technip)
Subject: Re: Black start on the 10th Feb

Frank,

I have made the same note, SPCU-1 , single board computer SBC-1A for TEM A and SBC-1B for TEM B. The ProSoft boards are also on a constant power source (24 Vdc) aren't they. Note the attached Mustang one-line diagram.
Each SPCU is fed from the UPS Distribution Panel UPE-5553 so the loss of AC power should not have caused a PSL, UNLESS the PSS or the SCU (ProSoft) toggled the PSL ATS_XY-SCxxx or ATS_YY_SCxxx associated PSL shutdown discretes. Please check the PHD and see if the discretes associated with the well/flowline were toggled for the wells that did shut down, and did not toggle for the wells that did not shutdown. These discretes are on page 38 of 38 on the attached Tag List.

We should have also received a FC signal for each well that was issued a PSL SD discrete. Surely this 24 Vdc from DPE-5504-A (Emergency Bus) and DPN-5551-B (Normal Bus) transfers bumpless and not through a contactor. If there is a bump in the 24 Vdc the ProSoft MVIs could glitch. I just don't know how Honeywell handles the SCU ATS_YY_SCxxx signals.

I would not expect that the SBCs received a power glitch as they are from UPS palel UPE-5553. The 120 Vac for the SPCU Cabinet lights LPN-5405 A & B and they are from the normal power bus, but the SBCs and the rest of the TEM gear is from the 240 Vac UPE-5553. The SCU 120 Vac also comes from the normal bus LPN-5405 A & B to CAB-J311 and J326.

Your comments please,

Wayne

(See attached file: 3478-BSB-LA-0011 Rev 5.pdf)(See attached file: MOC 1044_1440-20-EL-DG-6201 Rev 3.pdf)

"Ragan, Frank" <Frank.Ragan@bp.com>
02/10/2008 01:14 PM

To: "Oza, Nita" <Nita.Oza@bp.com>
cc: "Berger, Ron K (Manatee)" <ron.berger@bp.com>, "Young, Brian J" <Brian.J.Young@bp.com>, "Dean, Wayne (TECHNIP)" <wdean@technip.com>
Subject: Re: Black start on the 10th Feb

Nita,

I talked Jeff about the trip. Two things I find interesting. First, all of the wells that had trouble were on the same (troublesome) SPCU. Second, the Prosoft cards needed to be reset to restore communication (did the SPCU lose power? All three are on a dedicated

UPS).

What is the timing for getting FMC to swap out the SBC?

Frank Ragan
Automation Engineer
Atlantis Facilities Team
(281)366-6341 Office
(713)305-2723 Cell

----- Original Message -----
From: Oza, Nita
To: Ragan, Frank
Cc: Berger, Ron K (Manatee); Young, Brian J; Dean, Wayne (TECHNIP)
Sent: Sun Feb 10 16:33:21 2008
Subject: Black start on the 10th Feb

Frank,

We had a black start today at 9.25am.

When the turbine trips, the power went down and we did not have PSL on DC123, DC124 and DC143. DC111, D112 and DC113 when through the normal shutdown of PSL.

Can you please help me and look into what happened? I will get screen shots of what we did see to you.

Nita Oza
Atlantis Operations
Onshore Subsea Team Lead
Office: 281 366 3901
Cell: 281 948 3570

EXHIBIT 101

From: Maxwell, Steve J (Gregg Valdes)
Sent: Saturday, September 22, 2007 3:39:57 PM
To: Oneto, Rick; Todd, Simon P; Taylor, Alastair; Smit, Dirk; Lowe, Jon D; LaRue, Kelley A; Gum, C. Wayne; DeJohn, Kenneth P
CC: Ragan, Frank; Russell, Virgil; McCollum, Chris; Gold, Henry (Udelhoven); Jackson, Newton C
Subject: RE: Status Update Saturday 12:25

Rick,

I just got off the phone with Newt Jackson, Daryle Stoneburner and Broadpoint. Satellite comms have been up for about 20 minutes now (both links), and Daryle has tested regular telephones. The next steps will be to ensure that the firewall and email server are operational.

Please contact me on my mobile if you need anything.

Thanks,

Steve Maxwell
Gregg Valdes & Associates, Ltd

Room 422C - WL2
200 Westlake Park Blvd, Houston, TX 77079, USA
Tel: +1 281 366 6593 Fax: +1 713-647-7558 Cell: +1 713 834 7525
Email: steve.maxwell@bp.com

From: Oneto, Rick
Sent: Saturday, September 22, 2007 1:59 PM
To: Todd, Simon P; Taylor, Alastair; Smit, Dirk; Lowe, Jon D; LaRue, Kelley A; Gum, C. Wayne; DeJohn, Kenneth P
Cc: Ragan, Frank; Maxwell, Steve J (Gregg Valdes); Russell, Virgil; McCollum, Chris; Gold, Henry (Udelhoven)
Subject: RE: Status Update Saturday 12:25

Update as of 1:55PM

The PQ team is progressing with black start. The problem with the control system has been resolved and the Aux. Generator is running. They are currently ventilating the hull spaces and will start the Turbine soon. The two afternoon flights have been cleared by the OIM to bring the next batch of passengers out to the PQ.

Regards,

Rick Oneto
BP America, Inc.
Operations Manager - Atlantis
281-366-4061 (Office)
832-347-1864 (Cell)

From: Oneto, Rick
Sent: Saturday, September 22, 2007 1:14 PM
To: Todd, Simon P; Taylor, Alastair; Smit, Dirk; Lowe, Jon D; LaRue, Kelley A; Gum, C. Wayne; DeJohn, Kenneth P
Cc: Ragan, Frank; Maxwell, Steve J (Gregg Valdes); Russell, Virgil; McCollum, Chris; Gold, Henry (Udelhoven)
Subject: RE: Status Update Saturday 12:25

Contacted Virgil Russel and placed a hold on the afternoon flights.

Frank Ragan has made contact with the PQ. Currently they have the Emergency Generator running and trying to black start again. Frank thinks the black start procedure is out of sequence some way. They have now progressed past the point where they were being shut down and are trying to get the platform up. Will keep you updated.

Spoke with Alastair and agreed the Emerald should still progress to the field.

For everyone who is trying to change flight manifests remember there is a homeland security regulation about having the names on the manifest 24 hours in advance of the flight departure. We need to let Jon Lowe coordinate this or turn it over to someone else, but we can not have numerous people making changes on the fly.

Regards,

Rick Oneto
BP America, Inc.
Operations Manager - Atlantis
281-366-4061 (Office)
832-347-1864 (Cell)

From: Oneto, Rick
Sent: Saturday, September 22, 2007 12:46 PM
To: Todd, Simon P; Taylor, Alastair; Smit, Dirk; Lowe, Jon D; LaRue, Kelley A; Gum, C. Wayne; DeJohn, Kenneth P
Cc: Ragan, Frank; Maxwell, Steve J (Gregg Valdes)
Subject: Status Update Saturday 12:25

We have a problem with the control system. As they begin the black start the control system is sending a signal to shut down the generators. I have called Frank Ragan to have him contact the PQ on the following sat phone: 881641431879.

If Rickey can not get the control system straightened out he wants us to cancel the remaining two flights and send out empty helicopters to pick up the start-up crew and start again tomorrow. The drop dead time for that decision is 3PM.

I will called Steve Maxwell to help establish comms. The number mentioned is a hand held Sat phone and it needs to be on the deck to receive a call.
The CCR is 881621466669, OIM 881621466670.

Regards,

Rick Oneto
BP America, Inc.
Operations Manager - Atlantis
281-366-4061 (Office)
832-347-1864 (Cell)

From: Oneto, Rick
Sent: Saturday, September 22, 2007 9:51 AM
To: Todd, Simon P; Taylor, Alastair; Smit, Dirk; Lowe, Jon D; LaRue, Kelley A; Gum, C. Wayne; DeJohn, Kenneth P
Subject: Status Update Saturday Morning

- Both early flights have departed Houma with everyone on board.
- All personnel except for Andy Easler are confirmed for departure on afternoon flights to PQ.
- Bubba has been given the names of the people scheduled for flights tomorrow from the prelimiary manifests sent out by Kelley this morning @ 9:26AM
- Alastair has been notified that no one from Operations has contacted Cetco or BJ and asked if Steve Bish and Ken DeJohn could make that contact.
- John Rougeau has confirmed that the C-Carrier will have all Atlantis cargo loaded onto it and depart this afternoon for the PQ, Henry will coordinate.

Regards,

Rick Oneto
BP America, Inc.

Operations Manager - Atlantis
281-366-4061 (Office)
832-347-1864 (Cell)

Redacted

EXHIBIT 102

IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF TEXAS
HOUSTON DIVISION

UNITED STATES OF AMERICA, EX REL. KENNETH W. ABBOTT; KENNETH W. ABBOTT, INDIVIDUALLY AND FOOD & WATER WATCH, INC., Plaintiffs	)	Civil Action No. 4:09-cv-01193
vs.	)	JURY DEMANDED
BP EXPLORATION AND PRODUCTION INC., ET AL., Defendants.	)	

ORAL VIDEOTAPED DEPOSITION OF
STEVEN COTTON
December 14, 2011

ORAL VIDEOTAPED DEPOSITION OF STEVEN COTTON, produced as a witness at the instance of the Plaintiffs and duly sworn, was taken in the above-styled and numbered cause on the 14th day of December, 2011, from 9:13 a.m. to 1:56 p.m., before Michelle R. Williamson, Certified Shorthand Reporter in and for the State of Texas, reported by computerized stenotype machine at the offices of Fulbright & Jaworski, LLP, 1301 McKinney Street, Suite 5100, Houston, Texas 77010, pursuant to the Federal Rules of Civil Procedure and the provisions stated on the record or attached hereto.

P R O C E E D I N G S

(Deposition Exhibit 436 was marked.)

THE VIDEOGRAPHER: On the record at 9:13 a.m., beginning deposition with Tape 1.

STEVEN COTTON,

having been first duly sworn, testified as follows:

EXAMINATION

BY MR. PERRY:

Q. Mr. Cotton, my name is David Perry. I'm a lawyer, and I'm here to take your deposition in this case. Do you understand that, sir?

A. Yes.

Q. What's your name, please, sir?

A. Steven Cotton.

Q. Your -- the lawyers for BP have very likely reviewed some of what I'm about to say with you, but I want to kind of go over it just a little bit anyway.

You understand that this is a lawsuit against BP that has to do, among other things, with the design and the function of the controls systems, do you not?

A. Yes.

Q. As we go along, I'm going to ask you a lot of questions today about this subject, and it's important that you should always understand my questions so that

question to be sure that you and I understand each other.

Q. (By Mr. Perry) Have you seen the list of documents that is in front of you that starts out "documents to produce"? Have you seen that list before I showed it to you just now?

A. No.

Q. Okay. Have you ever taken to gather and bring with you any documents to this deposition?

A. No.

Q. Have you seen any part of the deposition notice before I showed it to you just now?

A. This specific?

Q. Yeah. That -- that document, Exhibit 436. Have you seen any part of it before I showed it to you just now?

A. I don't believe so.

Q. Okay. Are you an employee of BP, sir?

A. Yes.

Q. How long have you worked for BP?

A. Total of 20 years.

Q. What is your job there?

A. Instrumentation and controls engineer.

Q. Are you a registered professional engineer?

A. No.

Q. Do you have a degree in engineering?
A. Yes.
Q. When and where did you obtain your engineering degree?
A. 1991 from Texas A&M University.
Q. And did you specialize in controls when you were in school at A&M?
A. No. I have a Bachelor of Science in electrical engineering.
Q. Okay.
A. I took some controls, but it wasn't a specialty.
Q. So you have a Bachelor of Science in electrical engineering?
A. Yes.
Q. And that included some -- some coursework with regard to control systems?
A. Yes.
Q. What is your background with respect to the portion of control systems that deals with the computerized components of control systems?
MR. WATT: Objection; form.
A. I've done several projects over the past 20 years where we've upgraded relay systems to computerized systems. We've upgraded pneumatic systems to

computerized systems. So I've done -- involved with the design and the programming and the commissioning of those systems.

Q. (By Mr. Perry) Okay. Would it be fair to say that most of your learning with respect to the computerized components of control systems has been on-the-job learning?

A. I've attended many Rockwell classes, several of them with the PLC5 processors, attended several Honeywell classes on their control systems as well.

Q. When you attend classes, about how long do those classes last?

A. Most of them are four or five days.

Q. Okay. And about how many would you estimate you have attended?

A. Of the Rockwell/Honeywell, probably a dozen --

Q. Okay.

A. -- over the years.

Q. And do those generally focus on particular products or types of products made by those manufacturers?

A. Yes.

Q. Okay. When did you first start working on the Atlantis platform?

A. I believe officially it was the first week of

mechanical, instrument controls, so I would be the lead engineer for instrumentation and controls for Atlantis, but I don't have a team, so I'm not a team leader.

Q. Okay. You're the lead engineer for instrumentation and controls for Atlantis?

A. Yes.

Q. Okay. And has -- have you had that position essentially ever since August of 2008?

A. Yes.

Q. Okay. And who had that position before you?

A. I believe Frank Ragan.

Q. Okay. We understand from information that we have seen recently that there has been a substantial upgrade to the control systems on Atlantis within this calendar year. Is that correct?

MR. WATT: Objection; form.

A. Yes.

Q. (By Mr. Perry) And would you summarize for me, please, sir, what that upgrade consisted of?

A. It was an upgrade to the Honeywell distributed control system. We replaced the Experion servers for topside's VMS vessel management and packaged equipment server and the subsea servers. We also replaced the OPC servers for three sets of Rockwell servers.

The Honeywell system also has a -- their

Q. And the gist of it is that they're supposed to be two communication paths from the subsea control system to each well. Is that right?

A. Yes.

Q. And the idea is that if one path should fail for some reason, the other path will be able to send communications to control the valves in that well, correct?

A. Correct.

Q. Now, if -- if there were to be an interruption or a loss of both of those communication paths, that would constitute a total loss of electronic communications with that particular well. Is that correct?

A. Yes.

Q. All right. Now, has that ever happened on Atlantis, as far as you understand, that there has been a total loss of electronic communications with a well?

A. Yes.

Q. Has it happened on several occasions?

MR. WATT: Objection; form.

A. Yes.

Q. (By Mr. Perry) Do you have any understanding of how many times it has happened on Atlantis that there has been a total loss of electronic communications with

a well?

A. I don't know the exact number of times that they've lost communications.

Q. Do you know -- do you know approximately how many times and approximately how many wells have been affected?

A. Between five and ten times. [22:7 See witnesses' addition to this answer on attached Signature/Change pg]

Q. Okay.

A. I would only -- I could only guess at the number of wells. I believe it was -- I -- I don't know.

Q. Is there any written log of any -- of the times that this has occurred?

MR. WATT: Objection; form.

A. The control room has a log. I'm not sure if it was written -- typically would be logged if they lost communications with a well.

Q. (By Mr. Perry) Okay. Have you ever seen a written log or a written record of the times that communications have been lost with a well?

A. No.

Q. Okay.

A. And by written you mean someone handwritten into that log, you're not looking for an electronic log?

Q. Well, I was going to ask you separately about an automatic log --

A. Okay.

Q. -- that would be made by the system.

A. Okay.

Q. But right now I'm looking for a log perhaps handwritten or perhaps typed out via computer or something --

A. Okay.

Q. -- but made by a person. And in terms of a log made by a person, recording loss of communications with a well, have you ever seen such a log?

A. No, I have not.

Q. Okay. Now, in terms of the automatic communications, or automatic logs, there are -- the control systems themselves include a number of mechanisms to automatically log what happens with the control systems. Is that correct?

MR. WATT: Objection; form.

A. Yes.

Q. (By Mr. Perry) And is that done in association with one of the systems that is known as the historian?

A. The logs in the events are generated in the Experion DCS system. Then that information is also captured in historian, but the source of the data comes from the DCS and a subsets of that information would go to the data historian.

A. So those would be in there by default.

Q. Now, you know that there have been situations where valves were opening and closing on Atlantis when there was not a command sent intentionally at least. You're aware of that?

A. I'm aware there was some discussion about that and some things that happened before I got there.

Q. Okay. Did you have -- did you ever learn as to whether or not the opening and closing of valves would be captured in any kind of log even if the event was uncommanded?

A. I'm not aware of that.

Q. You don't know about that?

A. I don't know for sure.

Q. Okay. The alarm log and the event log, are they stored in the historian?

A. No. They would be stored on the -- on the Experion servers, the DCS servers.

Q. Okay. And are they not transferred to or archived in some way to the historian or in some kind of an archived system?

A. During the upgrade we noticed that we needed to put a better archiving system, so we have it now. Before when the archives were full, I believe it was deleted. Some of the servers may have been backed up,

but I can't tell you with any certainty if we have those logs available.

Q. We have seen a document in this case that I will hand you a copy of. That's been previously marked for identification as Discovery Exhibit 318.

A. Okay.

Q. And one of the things that...

MR. PERRY: I'm sorry, Counsel. Did you want me to stop my questioning while you're reading the document?

MR. WATT: If you're asking questions about the document, there's not an exhibit sticker or anything on it, so I'm just trying to familiarize myself with it.

MR. PERRY: We can just go off the record if you want. I don't want it to come out of my time.

MR. WATT: Well, if we get to the point of the two or three minutes it's going to take me to finish looking at this, I'll give you an extra two or three minutes.

MR. PERRY: I thought it might be a habit. I didn't want it to be a habit.

I tell you what. Why don't you read that at your leisure, and I'll come back and ask him about it.

describe -- is that sentence applicable and does it work that way on the Atlantis control systems?

MR. WATT: Objection; form.

A. Does this describe the Atlantis systems?

Q. (By Mr. Perry) Does the Atlantis historian gather real-time data from all facility systems and subsystems?

MR. WATT: Objection; form.

A. Yes.

Q. (By Mr. Perry) Okay. And then it also talks about in, I think, the fourth bullet point, how there will be a creation and storage of archived file sets of data by specific time periods to allow management of historical data, i.e., back up to and restore from off-line tapes.

Is that done on Atlantis?

MR. WATT: Objection; form.

A. Yes.

Q. (By Mr. Perry) So is it fair for us to understand that whatever logs there are from the control systems, that log alarms or events or process activity of any kind with regard to opening and closing of valves or commands to valves or so forth, that all of that data is supposed to have been captured by the historian and kept until it was archived?

pressure or flow rate. Event logs or the alarm logs are not transferred into the data historian unless the data historian was set up to monitor that event. The log won't go to the data historian.

Q. (By Mr. Perry) Okay. So the log is maintained in the Experion?

A. Yes.

Q. And are the logs at any time archived out of the Experions?

MR. WATT: Objection; form.

A. We do now. I'm not sure where they would be archived to, and I don't know the specific amount of data that's -- or history that's in the archives on the Experion.

Q. (By Mr. Perry) When you say "we do now," there was a time when the logs that are gathered by the Experion processors, servers was not being archived?

MR. WATT: Objection; form.

A. We're doing it differently because I didn't have -- readily have access to it. So I asked the Honeywell guys to set it up to archive it to a storage location where we would have access to it.

Q. (By Mr. Perry) Okay.

A. What happened before then, I don't know. I know that we looked for logs in the past and they

weren't there. We've had issues with some of the disk drives getting full and it just -- it was a cyclic two weeks or two months worth of data and when the data file is filled up, it would filter out. So we would have problems finding it. So now we are archiving it to a network storage location.

Q. So when did that start?

A. This year, after the upgrade, probably just this summer.

Q. So before the upgrade, your alarm systems and your event logs were not getting archived?

MR. WATT: Objection; form.

A. I'm not sure where they were archived to. The maintenance team may have archived them somewhere, and I don't know if those archives were moved back to Houston for long-term storage or if they were just kept there for six months or a year. I don't know that answer.

Q. (By Mr. Perry) Okay. We may come back to that a little more. Let me -- let me go on to another topic.

At the time that you started working with the Atlantis control systems in August of 2008, did you come to understand that there was a problem with how the shutdown system did or did not handle a loss -- total loss of communications with a well?

MR. WATT: Objection; form.

no system that was part of the design of the system -- there was nothing that was part of the design of the system that would communicate that total loss of communications to the ESS -- to the processor that was doing the ESS controls, did you not?

MR. WATT: Objection; form.

A. We learned there was a possibility that one failure mechanism would not be transmitted to the ESS processor, yes.

Q. (By Mr. Perry) If the failure mechanism was a failure of the SBC card, that failure mechanism was not being transmitted to the ESS. Is that correct?

MR. WATT: Objection; form.

A. I believe that's correct.

Q. (By Mr. Perry) Okay. And so if you had two SBC cards fail, and you had a total loss of communications with a well through that mechanism, the fact of the total loss of communications would not get transmitted to the ESS, correct?

MR. WATT: Objection; form.

A. I believe that's correct.

Q. (By Mr. Perry) Okay. And you learned that -- you personally learned it during this August of 2008 time period, correct?

A. Yes.

Q. But the controls system had always worked that way ever since it started up, correct?

MR. WATT: Objection; form.

A. Yes.

Q. (By Mr. Perry) Now, that would mean -- the concept under which the platform was operating from the MMS was that if there was a total loss of electronic communications with the well, then the delay timer would no longer be available and the ESS would immediately dump the hydraulics, right?

MR. WATT: Objection; form.

A. I didn't review all of those documents. I have heard that, yes.

Q. (By Mr. Perry) Okay. But when the ESS processor doesn't get the input that this total loss of communications has occurred, then that processor is going to make the delay timer available, even though the total loss of communications has occurred. Isn't that correct?

MR. WATT: Objection; form.

A. If -- yeah, if the dual communication is not signaled to the ESS, then it would not know to override the delay timer.

Q. (By Mr. Perry) And then the result would be also that ESS would not immediately dump the hydraulics,

right?

MR. WATT: Objection; form.

A. Correct.

Q. (By Mr. Perry) And so that was something that everybody understood was a violation or a noncompliance with the authorized emergency shutdown safety logic for the system, correct?

MR. WATT: Objection; form.

A. I don't -- I did not understand that to be the case.

Q. (By Mr. Perry) The e-mail that you're looking at, if we look back at that same bullet point, the third sentence starts with the words, "this failure."

Do you see that?

A. Yes, I do.

Q. And it reads, "This failure to detect lost communication is a noncompliance with the ESD safety logic of the subsea system."

Did I read that correctly?

A. Yes.

Q. And can you agree with me now from everything you know that a failure of the system, failure of the system to signal to the ESS of a total loss of communications with a well is a noncompliance with the ESD safety logic of the subsea system?

MR. WATT: Objection; form.

A. I see it written here, and I do agree that as designed it was looking for dual communication loss, and that particular failure scenario was not covered. So it would not shutdown in that -- in the case that we're talking about.

As far as the compliance, I didn't read the regulations or what was agreed to -- did not review the NTL, so I can't -- can't really speak to the compliance piece of it.

Q. (By Mr. Perry) Okay. So you're not -- you understand it's not consistent with the safety logic if that happens, but you don't want to be speaking to the MMS compliance issue?

A. Yes.

Q. Okay. Well, that's fair enough.

But what you're saying is, you know and understand that if there is a total loss of communications with the well and that is not signaled to the ESS, that that is a noncompliance with the safety logic as it is intended to function?

A. I believe it did not in -- meet the design intent.

Q. Okay. There are other -- there are things in -- in the -- in the electronic mechanisms that are

CHANGES AND SIGNATURE

WITNESS NAME: STEVEN COTTON

DATE OF DEPOSITION: December 14, 2011

PAGE	LINE	CHANGE	REASON
18,	7,	"adds" should be "activates"	
22,	7,	I believe the Single Board Computers may have failed between five and ten times. I am only aware of one specific time that we had full comms loss to the subsea control modules. I do not know which well that loss occurred on.	
19,	20,	"MBI" should be "MVI"	
18,	9,	"boost" should be "lose"	

I, STEVEN COTTON, have read the foregoing deposition and hereby affix my signature that same is true and correct, except as noted above.

STEVEN COTTON

THE STATE OF Texas)
COUNTY OF Harris)

Before me, Betty J. Heinsohn, on this day personally appeared STEVEN COTTON, known to me or proved to me on the oath of _____ or through TDL (description of identity card or other document) to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he/she executed the same for the purpose and consideration therein expressed.

Given under my hand and seal of office on this 12th day of January, 2012.

BETTY JEAN HEINSOHN
Notary Public, State of Texas
My Commission Expires
November 22, 2014

Betty J. Heinsohn
NOTARY PUBLIC IN AND FOR
THE STATE OF Texas

My Commission Expires: November 22, 2014

_____No Changes Made _____ Amendment Sheet(s) Attached

IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF TEXAS
HOUSTON DIVISION

UNITED STATES OF AMERICA, EX REL. KENNETH W. ABBOTT; KENNETH W. ABBOTT, INDIVIDUALLY AND FOOD & WATER WATCH, INC., Plaintiffs	)	Civil Action No. 4:09-cv-01193
vs.	)	JURY DEMANDED
BP EXPLORATION AND PRODUCTION INC., ET AL., Defendants.	)	

REPORTER'S CERTIFICATE
ORAL VIDEOTAPED DEPOSITION OF STEVEN COTTON
December 14, 2011

I, Michelle R. Williamson, Certified Shorthand Reporter in and for the State of Texas, hereby certify to the following:

That the witness, STEVEN COTTON, was duly sworn by the officer and that the transcript of the oral deposition is a true record of the testimony given by the witness;

That the original deposition was delivered to Mr. David L. Perry.

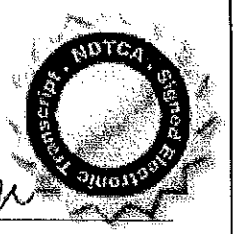
That a copy of this certificate was served on all parties and/or the witness shown herein on December 16, 2011.

COUNTY OF HARRIS)
STATE OF TEXAS)

I hereby certify that the witness was notified on December 16, 2011 that the witness has 30 days or(____ days per agreement of counsel) after being notified by the officer that the transcript is available for review by the witness and if there are changes in the form or substance to be made, then the witness shall sign a statement reciting such changes and the reasons given by the witness for making them;

That the witness' signature was was not returned as of January 19, 2012

Subscribed and sworn to on this, the 24th day of January, 2012.



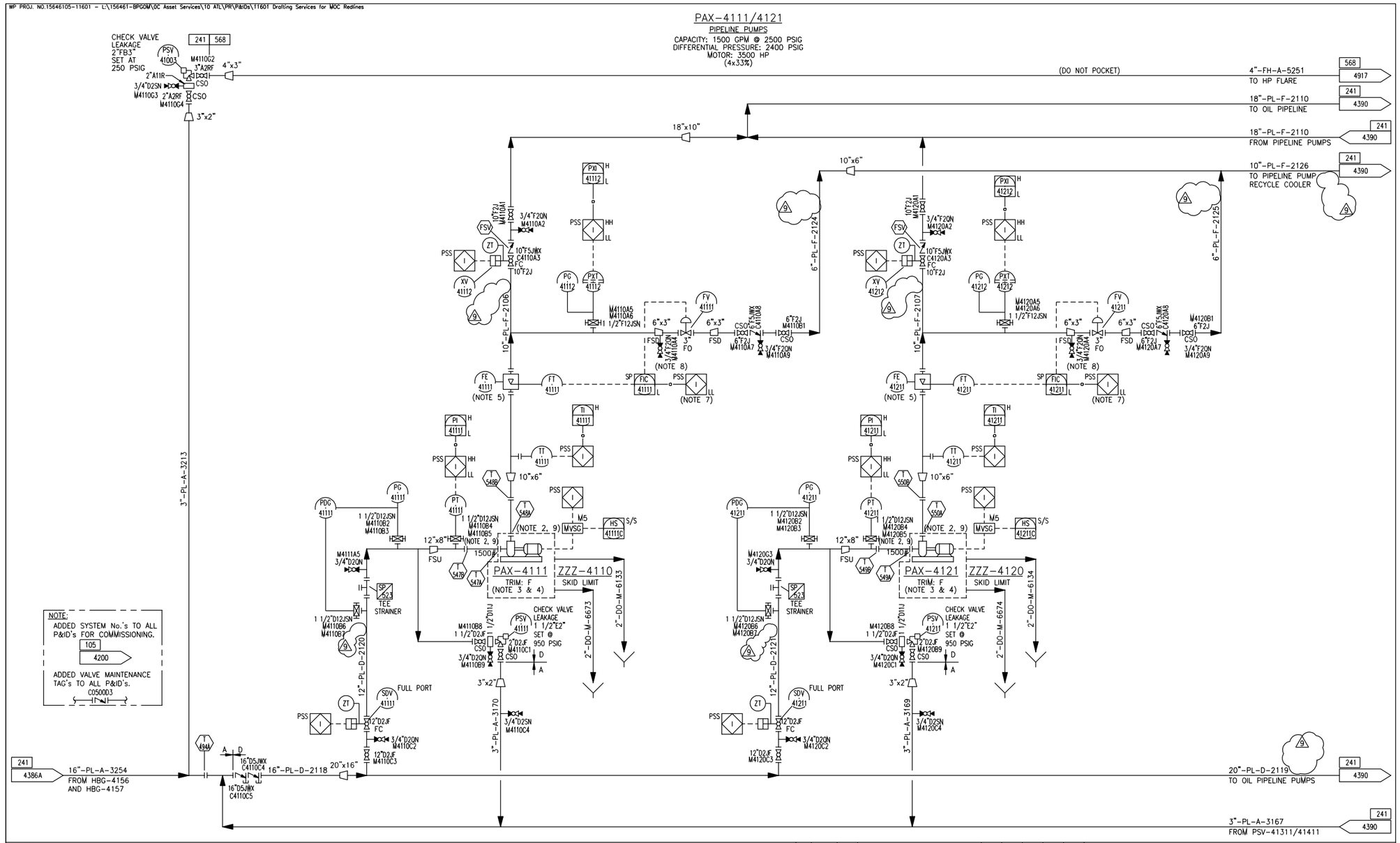
Michelle R. Williamson, CSR
Texas CSR #4471
Expiration: 12/31/13
Firm Registration No. 223
3000 Weslayan, Suite 235
Houston, Texas 77027
(713) 572-2000

EXHIBIT 103

WP PROJ. NO.15646105-11601 - L:\156461-BPGOM\OC Asset Services\10 ATL\PR\P&IDs\11601 Drafting Services for MOC Redlines

PAX-4111/4121

PIPELINE PUMPS
CAPACITY: 1500 GPM @ 2500 PSIG
DIFFERENTIAL PRESSURE: 2400 PSIG
MOTOR: 3500 HP
(4x33%)



NOTES:

1. ALL EQUIPMENT AND INSTRUMENT TAG NUMBERS ARE PRECEDED WITH "AT".
2. DROPOUT SPOOL FOR POSITIVE ISOLATION.
3. SEE P&ID 4586 & 4589 FOR PUMP AND MOTOR INSTRUMENTATION.
4. SEE P&ID 4584, 4585 & 4587 FOR PUMP SEAL OIL AND LUBE OIL DETAILS.
5. PROVIDE STRAIGHT RUN OF 3 PIPE DIA. UPSTREAM AND 1 PIPE DIA. DOWNSTREAM.
6. DELETED
7. DISCHARGE XV HELD CLOSE UNTIL MINIMUM FLOW ESTABLISHED.
8. ALARM ON HIGH CONTROLLER OUTPUT FOR EXCESS RECYCLE CONDITION.
9. SHIPPED LOOSE SPOOL TO BE INSTALLED BY INTEGRATION CONTRACTOR.

REV	DATE	BY	DESCRIPTION	CHK	ENGR	APPR	CLIENT	COMPANY
2	03/11/04	DSS	REISSUED FOR CONSTRUCTION	JK/FR	TJF	LBO	KPD	
9	01/25/10	MM	AS-BUILT PER MOC #09-0198	DR	KS	FXR	KPD	WP
8	11/04/03	MM	REVISED PER MOC #09-0260	JR	GF	FR	KPD	WP
7	05/04/07	BH	REVISED PER MOC #969	BH	JK	LBO	KPD	
6	06/30/06	GPL	AF/AC SQ 790, MOC 926	CA	JK	LBO	KPD	
5	11/08/05	BH	ISSUED FOR CONSTRUCTION	DK	JK		KPD	
4	05/25/05	JJC	AS FABRICATED/ AS CHECKED	ONS	JK	LBO	BPD	
3	09/08/04	DSS	REISSUED FOR CONSTRUCTION	SB	JK	JCH	KPD	

bp

Gulf Of Mexico
Deepwater Development Program
Atlantis Project WP PROJ. NO.15646105-11601
OCS NO. G11XXX
BLOCK NO. GREEN CANYON 787 WP DOC NO. 156461-10-PR-PID-0034

PIPING & INSTRUMENT DIAGRAM
PIPELINE PUMPS

DWG. NO. 1440-20-PI-DG-4389 REV. 9

1	09/19/03	DSS	REISSUED FOR CONSTRUCTION	GM EPR/JK LBO KPD
3	09/08/04	DSS	REISSUED FOR CONSTRUCTION	SB JK JCH KPD
8	11/04/03	MM	REVISED PER MOC #09-260	JR GF FR KPD WP
7A	11/04/09	MM	ISSUED FOR INTERNAL REVIEW	JA GF SL XX WP
0	05/20/03	DSS	REISSUED FOR CONSTRUCTION	JH SCD/JDK LBO KPD

BP Native File BPEP_ABB_02832882

EXHIBIT 104

From: Berger, Ron K (Manatee)
Sent: Tuesday, August 26, 2008 6:45:22 PM
To: Broman, William H(HOU)
CC: Oza, Nita; Young, Brian J; Chan, Roy; Fleming, Ray H; Cotton, Steven L
Subject: RE: news on FMC issues

Discovery Ex. No. **223**
Cause No.
4:09-cv-01193
Abbott v. BP

This is an overview of everything that is going on relative to the issues we are experiencing on the subsea control system and current status.

- Single Board Computers (SBC) - Atlantis has now experienced 7 alleged SBC failures. 5 of the 7 failures are reproducible. 2 of the 7 allegedly failed boards appear to work in the test rack onshore. One failure was very recently experienced on DC113/114. The 3 SPCU cabinets that house the subsea portion of the control system only contain slots for 12 boards. 3 of the slots are empty as a result of robbing for spares. 1 slot currently contains a dead board (DC113/114 B side). Below summarizes the SBC specific work ongoing:
  - The magnitude of the SBC issues were not fully realized until an SPCU entry occurred on July 30 as a result of an undetected dual comms loss on DC111/112. During the intervention entry, it was determined that the two SBC associated with DC111/DC112 failed. It was also realized that two additional SBC were not working in SCPU #3 either. Up to this point, no failures existed. All previous interventions were pre-cautionary (i.e. SBC that were pulled functioned normally onshore). As a result of the DC111/112 SBC failure, an MVI alarm was then made visible on the well HMI to ensure the Subsea CRO could identify a lost comm associated with the SBC.
  - There one working SBC in SPCU 3 is not currently dedicated for use with the existing wells. No other spares are currently available offshore. The card in SPCU 3 could be pulled for an emergency spare. There are 4 cards that are immediately available to Atlantis as part of a DDII IWOCS project in Houston. 6 additional cards have been put on order as operational spares for PQ. The order is currently being re-evaluated (lead time is ~ 8 weeks at $10,000 / card) with 1st delivery at the end of September.
  - An RCFA is in process with FMC that includes BP participation. A BP control engineer (Roy Chan) has been assigned as the lead for BP interest in this effort. The FMC lead in the RCFA is Brian McIntosh. Ray Fleming, BP Subsea TA is also involved. The scope of the RCFA includes collection of environmental and utility data from offshore as well as initiation of cradle to grave traceability on all Atlantis SBC.
  - This SBC issue has been networked with Thunderhorse (Chris Curran, SS Control Lead) and Deepwater Operations (Dave Turner's group). Thunderhorse has a subsea system with very similar design and utilizes same boards as Atlantis. Some of the Thunderhorse SBC could be accessed as spares in an emergency with some configuration changes.
  - Motorola is the manufacturer of the boards, through one of KOS' subcontractors. KOS works out of Norway. FMC Houston must work through Norway for all the technical expertise. Norway, in turn interfaces / manages their sub vendor who procures the cards from Motorola. Motorola participation is extremely key and this requirement has been communicated very high into the FMC organization.
  - Three faulty, Atlantis SBC's arrived in Norway on 8/20 and have been under testing by both Norway and their sub vendor with identical results. The sub vendor is now in contact with Motorola for further investigation.
  - An Honeywell onshore test rack is being procured by BP to more accurately simulate the offshore interfaces between the Honeywell supplied SCU and the FMC supplied SPCU. Specifications of the test system will be same as proposed last fall when test system was proposed but not funded by Operations. A complete test kit will be approximately $40,000. Thunderhorse has offered to pay for 1/2 the cost of the system.
  - DC113/114 are currently operating with only one functional line as a result of SBC failure. A technician is scheduled to be mobilized 8/27 for trip offshore to replace card and update configuration.
  - The DC113/114 SBC failure highlighted a comms detection issue. The lost communications on this card went undetected by the MVI card in the SCU. The MVI alarm posted on the HMI (as a result of DC111/112 intervention) did not detect the failed DC113/114 SBC. This failure to detect lost communication is a non-compliance with the ESD safety logic of the subsea system. An RFA is currently underway to investigate installation of a electronic watchdog to monitor the communication link. The Operations leadership has been advised of this non-compliance. No MMS notification has been made through the Subsea Operations staff.
  - FMC has reported that a firmware update is available for the SBC. The firmware update corrects many known issues / bugs. At this time, it is agreed that the firmware is not the likely root cause of the SBC failures seen. However, update to the firmware will eventually be necessary. A Project Execution Plan will be developed to change out the firmware, including all the necessary testing that will need to be conducted prior to change-out. The Honeywell onshore test rack will be utilized for some of the testing.
  - An option to utilize the offshore Automation Technicians in the onshore testing (with Honeywell onshore test rack) was proposed and is currently being evaluated with no outcome at this point.
  - Until resolution of the SBC issues are complete (as well as other issues), a standing request has been left with the PQ to leave Smart-Tool operational so that valuable diagnostic data is recorded during each event. Furthermore, diagnostic logs are now transmitted daily to onshore staff for review and archiving. A request has

Redacted

also been made for Operations to stand-down on manual resets of any SBC by PQ personnel unless necessary in an emergency. The recommended course to isolate any issue is to open the line breaker on the affected channel until FMC personnel can be called in to intervene.

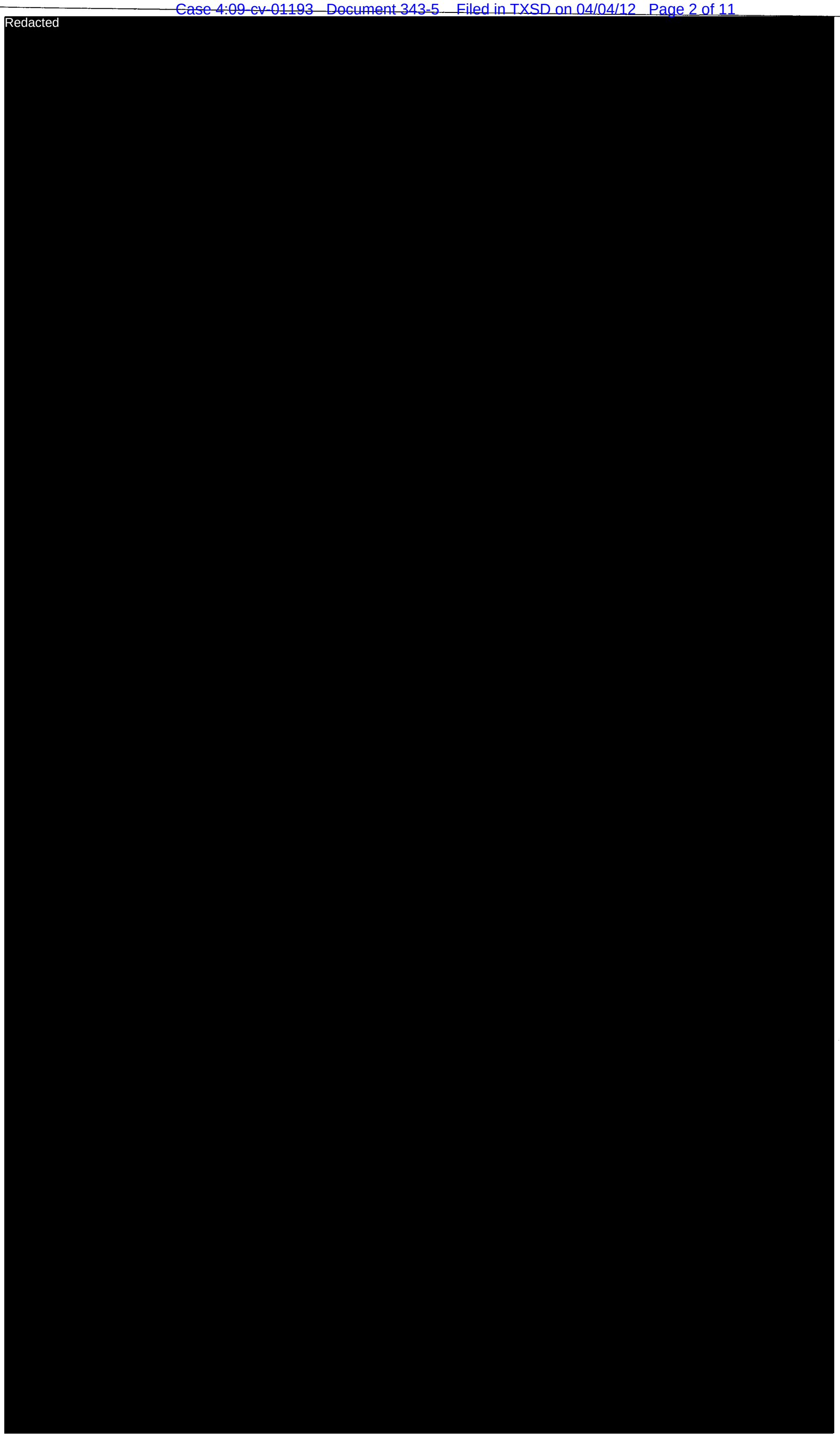
- The ACE has been successfully used on several same-day call-outs and has eliminated the need to send personnel offshore when SBC board replacement has not been required. With proper training of offshore personnel and available procedures, it has been determined that PQ staff could perform SBC change-outs offshore, and FMC technicians can perform all configuration changes remotely from the ACE. This remediation option has not been put into effect at this time.

- The DC122 Uncommanded Shut-in on 10-Aug - DC122 shut-in at 7:20 am on Aug-10. Honeywell event logs indicated that no commands were sent from the PQ to cause shut-in. The only event coincident with the shut-in was a lost communication that occurred on Line A of DC122. Later, it was confirmed with FMC that the subsea controls design is always fail in a lost comm's / lost power situation (a hydraulic umbilical blow-down is last resort to facilitate shut-in of latter). Shut-in of a value should only occur with a command. Diagnostics later determined that SEM A on DC122 was frequently failing to reply to commands from it's SBC. Smart-tool logs also confirmed that no valve commands were sent to DC122 at 7:20 am. Review of internal status buffers in SCM revealed a CPU RAM warning. This warning, in conjunction with frequent failures on side A, and the current industry warning regarding CPU rams led to a recommendation by FMC to shut-down DC122 side A which is current situation. The ongoing SBC issue is NOT believed to be the cause of this problem. Evaluation for replacement of the SCM is underway.
- DC113 AMV Software Changes - The failure of the DC113 AMV actuator has led to procurement of an external actuator. Control of the external actuator is only practical through changes of software resident on the SBC. The software for the DC113/114 SBC has been modified and successfully tested onshore in the FMC pod lab. An intervention offshore is schedule to begin on Aug-27 (coincident with DC113/114 SBC failure change-out). The DC113 / DC114 wells will be shut-in prior to installation so that control of the wells can be safely test after the software is installed.

Redacted

EXHIBIT 105

Redacted



Redacted

Redacted

Redacted

bp

Gulf of Mexico
Deepwater Development Program
Project: Atlantis Subsea

Safety Shutdown Logic
Pig Valve To Flow Line Selection, Sheet 2

DWG:	1440-35-SB-DG-3022
FILE:	1440-35-SB-DG-3022.vsd
REV:	0

PROJECT NO.	345602
DESIGNED BY:	B. MOZISEK 4/06/04
DRAWN BY:	P. SIWEK 4/06/04
CHECKED BY:	
APPROVED BY:	
SCALE:	NONE
DATE	

REV	DATE	DESCRIPTION	CHK	ENGR	APPR	CLIENT
0	5/11/04	ISSUED FOR IMPLEMENTATION				
A	4/20/04	ISSUE FOR REVIEW				

FAST Mustang Automation & Control
Honeywell
HOUSTON, TEXAS

Redacted

Case 4:09-cv-01193 Document 343-5 Filed in TXSD on 04/04/12 Page 4 of 11

Redacted

REV	DATE	DESCRIPTION	CHK	ENGR	APPR	CLIENT
A	4/20/04	ISSUE FOR REVIEW				
0	5/11/04	ISSUED FOR IMPLEMENTATION				

Redacted

FAST Mustang Automation & Control
Honeywell
HOUSTON, TEXAS

bp
Gulf of Mexico
Deepwater Development Program
Project: Atlantis Subsea

Safety Shutdown Logic
Pig Valve To Flow Line Selection, Sheet 3

PROJECT NO.	345602	
DESIGNED BY:	B. MOZISEK	4/06/04
DRAWN BY:	P. SIWEK	4/06/04
CHECKED BY:		
APPROVED BY:		
SCALE:	NONE	DATE

DWG: 1440-35-SB-DG-3023 | FILE: 1440-35-SB-DG-3023.vsd | REV: 0

Redacted

BPEP_ABB_03359750

Redacted

bp

Gulf of Mexico
Deepwater Development Program
Project: Atlantis Subsea

Safety Shutdown Logic
Typical Subsea Water Injection Well, Sheet 1

DWG:	1440-35-SB-DG-3024
FILE:	1440-35-SB-DG-3024.vsd
REV:	0

PROJECT NO.	345602
DESIGNED BY:	B. MOZISEK 4/06/04
DRAWN BY:	P. SIWEK 4/06/04
CHECKED BY:	
APPROVED BY:	
SCALE	NONE
DATE	

REV	DATE	DESCRIPTION	CHK	ENGR	APPR	CLIENT
0	5/11/04	ISSUED FOR IMPLEMENTATION				
A	4/20/04	ISSUE FOR REVIEW				

FAST Mustang Automation & Control Honeywell HOUSTON, TEXAS

Redacted

Redacted

REV	DATE	DESCRIPTION	CHK	ENGR	APPR	CLIENT
0	5/11/04	ISSUED FOR IMPLEMENTATION				
A	4/20/04	ISSUE FOR REVIEW				

FAST Mustang Automation & Control Honeywell HOUSTON, TEXAS

PROJECT NO.	345602
DESIGNED BY:	B. MOZISEK 4/06/04
DRAWN BY:	P. SIWEK 4/06/04
CHECKED BY:	
APPROVED BY:	
SCALE:	NONE DATE

bp

Gulf of Mexico
Deepwater Development Program
Project: Atlantis Subsea

Safety Shutdown Logic
Typical Subsea Water Injection Well, Sheet 2

DWG: 1440-35-SB-DG-3025 FILE: 1440-35-SB-DG-3025.vsd REV: 0

Redacted

Redacted

bp

Gulf of Mexico
Deepwater Development Program
Project: Atlantis Subsea

Safety Shutdown Logic
Typical Production Well, Sheet 1

DWG: 1440-35-SB-DG-3026 | FILE: 1440-35-SB-DG-3026.vsd | REV: 0

REV	DATE	DESCRIPTION	CHK	ENGR	APPR	CLIENT
0	5/11/04	ISSUED FOR IMPLEMENTATION				
A	4/20/04	ISSUE FOR REVIEW				

PROJECT NO. 345602
DESIGNED BY: B. MOZISEK 4/06/04
DRAWN BY: C. LEKRON 4/06/04
CHECKED BY:
APPROVED BY:
SCALE: NONE DATE

FAST Honeywell Mustang Automation & Control
HOUSTON, TEXAS

Redacted

Filed in TXSD on 04/04/12 Page 8 of 11

Case 4:09-cv-01193 Document 343-5

Redacted

REV	DATE	DESCRIPTION	CHK	ENGR	APPR	CLIENT
A	4/20/04	ISSUE FOR REVIEW				
0	5/11/04	ISSUED FOR IMPLEMENTATION				

Redacted

FAST Mustang Automation & Control
Honeywell
HOUSTON, TEXAS

PROJECT NO.	34560Z
DESIGNED BY:	B. MOZISEK 4/06/04
DRAWN BY:	C. LEKRON 4/06/04
CHECKED BY:	
APPROVED BY:	
SCALE:	NONE
DATE	

bp Gulf of Mexico Deepwater Development Program
Project: Atlantis Subsea
Safety Shutdown Logic
Typical Production Well, Sheet 2

DWG: 1440-35-SB-DG-3027 FILE: 1440-35-SB-DG-3027.vsd REV: 0

BPEP_ABB_03359754

Redacted

Case 4:09-cv-01193 Document 343-5 Filed in TXSD on 04/04/12 Page 9 of 11

Redacted

REV	DATE	DESCRIPTION	CHK	ENGR	APPR	CLIENT
0	5/11/04	ISSUED FOR IMPLEMENTATION				
A	4/20/04	ISSUE FOR REVIEW				

Redacted

FAST Mustang Automation & Control Honeywell HOUSTON, TEXAS

bp Gulf of Mexico Deepwater Development Program Project: Atlantis Subsea

Safety Shutdown Logic Typical Production Well, Sheet 3

PROJECT NO	34502	
DESIGNED BY:	B. MOZISEK	4/06/04
DRAWN BY:	C. LEKRON	4/06/04
CHECKED BY:		
APPROVED BY:		
SCALE:	NONE	DATE

DWG: 1440-35-SB-DG-3028 | FILE: 1440-35-SB-DG-3028.vsd | REV: 0

Redacted

BPEP_ABB_03359755

Case 4:09-cv-01193 Document 343-5 Filed in TXSD on 04/04/12 Page 10 of 11

REV	DATE	DESCRIPTION	CHK	ENGR	APPR	CLIENT
A	4/20/04	ISSUE FOR REVIEW				
0	5/11/04	ISSUED FOR IMPLEMENTATION				

Redacted

FAST Mustang Automation & Control
Honeywell
HOUSTON, TEXAS

bp
Gulf of Mexico
Deepwater Development Program
Project: Atlantis Subsea
Safety Shutdown Logic
Typical Production Well, Sheet 4

PROJECT NO:	345602
DESIGNED BY:	B. MOZISEK 4/06/04
DRAWN BY:	C. LEKRON 4/06/04
CHECKED BY:	
APPROVED BY:	
SCALE:	NONE DATE

DWG: 1440-35-SB-DG-3029 FILE: 1440-35-SB-DG-3029.vsd REV: 0

BPEP_ABB_03359756

Redacted

Case 4:09-cv-01193 Document 343-5 Filed in TXSD on 04/04/12 Page 11 of 11

Redacted

REV	DATE	DESCRIPTION	CHK	ENGR	APPR	CLIENT
A	4/20/04	ISSUE FOR REVIEW				
0	5/11/04	ISSUED FOR IMPLEMENTATION				

Redacted

Mustang Automation & Control

Honeywell

HOUSTON, TEXAS

bp

Gulf of Mexico
Deepwater Development Program
Project: Atlantis Subsea

Safety Shutdown Logic
SCM Dual Communication Fault

PROJECT NO:	345602	
DESIGNED BY:	B. MOZISEK	4/06/04
DRAWN BY:	P. SIWEK	4/06/04
CHECKED BY:		
APPROVED BY:		
SCALE:	NONE	DATE

DWG: 1440-35-SB-DG-3030 FILE: 1440-35-SB-DG-3030.vsd REV: 0

BPEP_ABB_03359757

EXHIBIT 106

IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF TEXAS
HOUSTON DIVISION

UNITED STATES OF AMERICA, EX REL. KENNETH W. ABBOTT; KENNETH W. ABBOTT, INDIVIDUALLY AND FOOD & WATER WATCH, INC., Plaintiffs	)	Civil Action No. 4:09-cv-01193
vs.	)	JURY DEMANDED
BP EXPLORATION AND PRODUCTION INC., ET AL., Defendants.	)	

ORAL VIDEOTAPED DEPOSITION OF
KEITH ANGEL
December 14, 2011

ORAL VIDEOTAPED DEPOSITION OF KEITH ANGEL, produced as a witness at the instance of the Plaintiffs and duly sworn, was taken in the above-styled and numbered cause on the 14th day of December, 2011, from 2:02 p.m. to 3:56 p.m., before Michelle R. Williamson, Certified Shorthand Reporter in and for the State of Texas, reported by computerized stenotype machine at the offices of Fulbright & Jaworski, LLP, 1301 McKinney Street, Suite 5100, Houston, Texas 77010, pursuant to the Federal Rules of Civil Procedure and the provisions stated on the record or attached hereto.

mind around the acronyms.

A. I totally agree with you. I wish we didn't use them.

Q. The subsea control module is the hardware that connects -- actually, I don't know this. Why don't you just tell me, what is the subsea control module?

A. Subsea control module is a piece of equipment that is attached to a subsea tree that controls the operation of the valves on that tree.

Q. And you're saying that each of these subsea control modules, there's one module per tree. Is that correct?

A. That's correct.

Q. And each module contains two SEMs?

A. That's correct.

Q. So the module contains the devices that receive the data signals from the surface --

A. That's correct.

Q. -- on each of the two paths?

A. That's correct.

Q. And so you've been having data communications trouble with 112 that is recently diagnosed as something in the SCM?

A. Yes.

Q. And does your diagnosis tell you what it is in

the SCM?

A. More specifically, it is on the SEM within the SCM.

Q. Okay.

A. And the only way to fix it is to replace the SCM.

Q. Okay. And has the diagnosis told you the nature of the trouble with the SEM?

A. No. We would have to do a root cause failure analysis --

Q. And before --

A. -- to determine that.

Q. And you probably have to get the piece of hardware upstairs before you can do that.

A. Exactly.

Q. Okay. Now, what -- what has been the nature of the -- of the problems or the symptoms of the problems?

A. Following a shutdown and evacuation for a hurricane, when we attempted to power up that SEM, it failed to power up.

Q. Okay.

THE COURT REPORTER: And you said SEM there?

THE WITNESS: Yes.

THE COURT REPORTER: Thank you.

Q. (By Mr. Perry) And so this happened when?
A. Sometime in the last four or five months.
Q. You shut down for a hurricane this past summer?
A. Yes.
Q. And when you went to bring the -- bring Atlantis back up again, you couldn't get that SEM to power up?
A. That's correct.
Q. And so since that time, you had been running with one nonredundant data path to that well?
A. That is correct.
Q. Okay. And has the other data path been able to perform all of the functions satisfactorily?
A. The one working data path has satisfied all requirements, yes.
Q. Okay. Now, you mentioned 131. Would you tell me about the communications problems on 131?
A. The -- the symptoms were very similar to 112, but the diagnostics that we completed last week in the case of 131, we were able to fix it in topsides. In the case of 112, we determined that everything topsides was working properly and the problem had to be subsea.
Q. So on 131, what was the problem?
A. It was a faulty modem in the SPCU.
Q. Okay. And was it, again, a situation that you

had shut down for the hurricane and then it wouldn't come back up?

A. It was a similar situation, yes.

Q. Was it -- was it the same situation or was it some of that's similar? I'd like to get a little more detail on that.

A. It was a different time. They did not occur at the same time, but it was a similar situation in that the well was powered down for an evacuation and then when we attempted to power it back up, one of the SEMs would not power up.

Q. And when did -- when did the problem arise?

A. Again, it was sometime in the last six months.

Q. Okay. You know, I have lived most of my adult life -- all of my adult life in Corpus Christi, so I know a little bit about hurricane season, but I don't really have any real understanding of how frequently in the summer a facility like Atlantis needs to shut down on account of hurricanes. Could you give us jurors and judges alike that might be involved in this case a little insight about that?

A. I've worked in the deepwater for about 11 years, and there have been years when there were no shutdowns for hurricanes and there have been years when there has been as many as four shutdowns for hurricanes.

again?

A. Again, that's at least 24 hours.

Q. Okay. So Well 123, can you tell me about the communications problems on it?

A. 123 and 124 are actually linked because they share the same line. In both 123 and 124, SEM B line has a probable ground fault.

Q. Okay. And this is in the umbilical?

A. It could be in the umbilical or in any of the connections that are located subsea.

Q. I have heard a term that is pronounced LIM, and it is spelled in all capitals L-I-M.

A. Yes.

Q. Is that related to this situation?

A. The only way that it is related is that we -- we first discovered this probable ground fault through the use of the LIM. LIM stands for line insulation monitor.

Q. Okay.

A. And this monitor alerted us to the fact that that line might have a ground fault.

Q. I have seen documentation where people have written that -- in certain wells and certain time periods the LIMs were off normal for extended periods of time and were alarming for extended periods of time and

people would just turn off the alarms because that was the most logical thing to do under the circumstances.

Are you familiar with that situation such as I described ever having occurred that you were aware of?

MR. WATT: Objection; form.

A. I am aware of the LIMs providing erratic data. I am not aware of people turning off alarms.

Q. (By Mr. Perry) When are you aware of LIMs providing erratic data?

A. From the time that I joined the subsea operations team in May of 2009 until the problem was solved in June of 2011.

Q. And what was the problem of the erratic data and how was it solved?

A. The -- I don't know that we know what caused the problem. The problem was solved by re- -- kind of like rebooting the system.

Q. I don't really under -- I'm not following what you're saying because -- just explain -- explain to me what you're saying.

A. We went to the platform in June of 2011 to diagnose the problem, and in the course of trying to diagnose the problem, we solved it.

Q. You rebooted the system and the problem wasn't

there anymore?

A. That is correct.

Q. Even though I gather it probably had been there both before and after a number of previous shutdowns.

A. That's correct.

Q. So the present situation is the mystery remains, but the problem has gone away --

A. That's correct.

MR. WATT: Objection; form.

Q. (By Mr. Perry) -- and added to the mystery, I guess?

Okay. Have there been any other malfunctions, undesirable functions having to do with controls or communications of the wells or control of valves, anything like that, in the subsea in the last two or three years that you are aware of?

MR. WATT: Objection; form.

A. We have corrected some other problems, but the only problems that I'm aware of that are currently in play are 112, 123, and 124.

Q. (By Mr. Perry) I would like for you to tell me about the problems, both those that have been corrected and those that still remain to be corrected, that you know of, if you would, please, sir.

A. One that I can tell you about is we changed the

143SCM. I believe that was in September of 2009.

Q. And do you recall why?

A. One of the SEMs was not communicating, symptoms very similar to 112 that we've already discussed.

Q. Okay. What other problems do you recall?

A. When I -- the first month I joined the subsea team, we actually changed out at least three SCMs.

Q. That would've been roughly May of '09?

A. That was May of '09. That same month we changed out all of the remaining faulty fast acting modules. That's -- that's all I can think of at this moment.

Q. Okay. Have there been any other problems related to the wells and their controls or communications since May of '09 up until now that you have not already put on the record?

A. Could you repeat that question?

Q. Yeah.

What I'm trying to do is find out all the problems that you know about, and I'm gathering that, in particular, you probably would know about things from May of '09 until now.

A. That's correct.

Q. And so are there any other problems that you know about, and really for any time period, but

especially from May of '09 until now that have happened whether they've been fixed or not that you have not already told me about?

A. There have been other problems, but I -- my memory's not good enough to list them.

Q. Tell me -- tell me what you can remember about the other problems.

A. I remember -- I remember -- I don't remember why the well was shut in, but when we attempted to restart the well, I remember that we needed to reset the -- something in the SPCU in order to establish communications with that well.

Q. Okay. Do you remember which well?

A. I think it was 131.

Q. Do you remember what it was that had to be reset?

A. I can't remember.

Q. Okay. Any other problems that you've had along those lines?

A. Not that I can remember.

Q. Okay. So have you told me about all the problems, then, that have happened since you have been the team leader for the subsea?

A. To the best of -- to the best of my memory I have.

I, KEITH ANGEL, have read the foregoing deposition and hereby affix my signature that same is true and correct, except as noted above.

KEITH ANGEL

THE STATE OF TEXAS)
COUNTY OF Harris)

Before me, Mary Eegunia Angus, on this day personally appeared KEITH ANGEL, known to me or proved to me on the oath of Texas Drivers License through _____ (description of identity card or other document) to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that he/she executed the same for the purpose and consideration therein expressed.

Given under my hand and seal of office on this 12 day of January, 2012.

MARY EUGENIA ANGUS
MY COMMISSION EXPIRES
MAY 3, 2012

Mary Eugenia Angus
NOTARY PUBLIC IN AND FOR
THE STATE OF Texas

My Commission Expires: May 3, 2012

✓ No Changes Made _____ Amendment Sheet(s) Attached

IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF TEXAS
HOUSTON DIVISION

UNITED STATES OF AMERICA, EX REL. KENNETH W. ABBOTT; KENNETH W. ABBOTT, INDIVIDUALLY AND FOOD & WATER WATCH, INC., Plaintiffs	)	Civil Action No. 4:09-cv-01193
vs.	)	JURY DEMANDED
BP EXPLORATION AND PRODUCTION INC., ET AL., Defendants.	)	

REPORTER'S CERTIFICATE
ORAL VIDEOTAPED DEPOSITION OF KEITH ANGEL
December 14, 2011

I, Michelle R. Williamson, Certified Shorthand Reporter in and for the State of Texas, hereby certify to the following:

That the witness, KEITH ANGEL, was duly sworn by the officer and that the transcript of the oral deposition is a true record of the testimony given by the witness;

That the original deposition was delivered to Mr. David L. Perry.

That a copy of this certificate was served on all parties and/or the witness shown herein on December 19, 2011.

I further certify that pursuant to FRCP Rule

30(f)(1), that the signature of the deponent:

__✓__ was requested by the deponent or a party before the completion of the deposition and that the signature is to be before any notary public and returned within 30 days from date of receipt of the transcript. If returned, the attached Changes and Signature Page contains any changes and the reasons therefore:

____ was not requested by the deponent or a party before the completion of the deposition.

I further certify that I am neither counsel for, related to, nor employed by any of the parties or attorneys in the action in which this proceeding was taken, and further that I am not financially or otherwise interested in the outcome of the action.

Certified to by me on this, the 14th day of December, 2011.

Michelle Williamson

Michelle R. Williamson, CSR
Texas CSR #4471
Expiration: 12/31/13
Firm Registration No. 223
3000 Weslayan, Suite 235
Houston, Texas 77027
(713) 572-2000

COUNTY OF HARRIS)
STATE OF TEXAS)

I hereby certify that the witness was notified on December 19, 2011 that the witness has 30 days or(____ days per agreement of counsel) after being notified by the officer that the transcript is available for review by the witness and if there are changes in the form or substance to be made, then the witness shall sign a statement reciting such changes and the reasons given by the witness for making them;

That the witness' signature (was)/was not returned as of January 19, 2012.

Subscribed and sworn to on this, the 24th day of January, 2012.

Michelle Williamson

Michelle R. Williamson, CSR
Texas CSR #4471
Expiration: 12/31/13
Firm Registration No. 223
3000 Weslayan, Suite 235
Houston, Texas 77027
(713) 572-2000

Exhibit 107
Part 1

LIST OF BP DOCUMENTS RE: CONTROLS MALFUNCTIONS

LATEST DATE ON EMAIL(S) OR DOC DATE	BC#	EMAIL SUBJECT TITLE/DOCUMENT NAME (if not an Email)
9/10/02	BPEP_ABB_04135695-5696	RE: Next Subsea/Topside Control Interface Meeting
2/22/05	BPEP_ABB_00110395-0398	FW: List of Any Waivers/Exceptions, Etc. w/Attached Timing Table 02-18-95 (Valves)
7/26/05	BPEP_ABB_04135703-5704	RE: Safety Action Close-outs
7/26/06	BPEP_ABB_04135839-5853	Atlantis Management of Change (MOC) #0962 with supporting documentation, including e-mails and correspondence w/Dresser Rand [NOT AN EMAIL]
1/22/07	BPEP_ABB_03498616-8620	"RE: Operations Managers Meeting and Higher -" forwarding e-mails titled "RE: Additional Equipment for Atlantis"
2/7/07	BPEP_ABB_03665283	[NOT AN EMAIL] FMC Engineering Change Note: CM 500000059845
3/13/07	BPEP_ABB_03665284	[NOT AN EMAIL] FMC Engineering Change Note: CM 500000060416
9/22/07	BPEP_ABB_03502155-2157	RE: Status Update Saturday 12:25
9/24/07	BPEP_ABB_04135693	RE: Evac and Blackstart Issues
10/2/07	BPEP_ABB_04135671-5674	FW: Hurricane Evacuation and Relivening Lessons Learned
10/5/07	BPEP_ABB_00092830-2838	[NOT AN EMAIL] Atlantis Management of Change - Temporary MOC to allow Well Start-up without Operational FAM
11/1/07	BPEP_ABB_04135680	opportunity
11/9/07	BPEP_ABB_04135683-5692	Calculated choke position
11/13/07	BPEP_ABB_04135668	Development System
11/13/07	BPEP_ABB_04135679	Honeywell System for Fam Testing
11/14/07	BPEP_ABB_04135724-5729	RE: Control of Work - Automation
11/15/07	BPEP_ABB_04135694	RE: Honeywell System for Fam Testing
11/29/07	BPEP_ABB_00092929-2932	[NOT AN EMAIL] BP Atlantis Project Operations/HUC MOC'S
12/7/07	BPEP_ABB_04135697-5699	RE: Oil Shutdown 2/06/07
12/9/07	BPEP_ABB_04135755-5756	MOC-GC787-07-0290 [NOT AN E-MAIL]
12/9/07	BPEB_ABB_04135766-5777 [REDACTED]	MOC-GC787-07-0290 [NOT AN E-MAIL] - Same MOC Reference as Above - Cause and Effect Charts and Logic Diagrams Attached
12/9/07	BPEP_ABB_04135764-5765	MOC Review - MOC-GC787-07-0290 [NOT AN E-MAIL]
12/20/07	BPEP_ABB_03501101-1102	RE: Controllers failure, causing OSD
1/2/08	BPEP_ABB_03512909-2911	RE: TRACTION E-mail: Incident Report Approval Required
1/3/08	BPEP_ABB_03512831 (Disc Exh 216 - Berger Depo)	RE: LIM alarms
1/3/08	BPEP_ABB_03512848-2850	RE: TRACTION E-mail: Incident Report Approval Required
1/7/08	BPEP_ABB_03559672-9673 (Disc Exh 217 - Berger Depo)	Re: Subsea valves opening without request
1/7/08	BPEP_ABB_03560235	FW: Subsea valves opening without request
1/7/08	BPEP_ABB_04125309-5310	FW: Subsea valves opening without request
1/9/08	BPEB_ABB_03513076	FW: DC 124 valve opening
1/9/08	BPEP_ABB_03513072	RE: DC 124 re start
1/9/08	BPEP_ABB_03513077	DC 124 valve opening
1/9/08	BPEP_ABB_03554858	Nightly Report 01/09/08
1/9/08	BPEP_ABB_03554862 (Disc Exh 218 - Berger Depo)	FTP pressure SD's?
1/9/08	BPEP_ABB_03554885	RE: Strange Choke Behavior
1/9/08	BPEP_ABB_03554894	FW: ST Logs
1/9/08	BPEP_ABB_03559338	FAMs during SD today

LIST OF BP DOCUMENTS RE: CONTROLS MALFUNCTIONS

LATEST DATE ON EMAIL(S) OR DOC DATE	BC#	EMAIL SUBJECT TITLE/DOCUMENT NAME (if not an Email)
1/9/08	BPEP_ABB_03559371-9372	RE: Nightly Report 01/08/08
1/9/08	BPEP_ABB_03559378	DC-124 valve malfunctions
1/9/08	BPEP_ABB_03559386	RE: DC 124 valve opening
1/10/08	BPEP_ABB_03513064-3065	RE: pod testing
1/10/08	BPEP_ABB_03513069	RE: 143?
1/10/08	BPEP_ABB_03554824-4825	FW: DC 124 re start
1/15/08	BPEP_ABB_03513032 (Disc Exh 219 - Berger Depo)	Shutdowns for DC123, DC143
1/15/08	BPEP_ABB_04135667	DC-143 choke movements following an ESD - bug found
1/16/08	BPEP_ABB_03554200-4201	RE: DHPT Time-Stamp Problems DC-124
1/19/08	BPEP_ABB_03553990	FW: DHPT Time-Stamp Problems DC-124
1/23/08	BPEP_ABB_03553786-3789	Fw: BP Atlantis Communication Issue
1/29/08	BPEP_ABB_03553479-3482	RE: MCS SPCU ST Questions
2/11/08	BPEP_ABB_03514570-4575	RE: Black start on the 10th Feb
2/12/08	BPEP_ABB_04135681-5682	RE: Atlantis T-Gen STI Fault trip
2/14/08	BPEP_ABB_04135700-5702	RE: Platform Shutdown 10 Jan.08
2/28/08	BPEP_ABB_03513649-3650	2008-02-28 Subsea Installation Team Daily Report
3/26/08	BPEP_ABB_03561560-1562	NOT AN EMAIL: Technip Engineering/Technical Document Transmittal
4/11/08	BPEP_ABB_03476551-6552	Fw: 3478-ETR-3566 - Installation/ Commissioning Procedure, Test Procedure, BP Atlantis Smarttool to SCM Communication Test (BPAT2710A) - Rev C.
5/2/08	BPEP_ABB_04135757-5758	MOC-GC787-08-0089 [NOT AN E-MAIL]
5/2/08	BPEP_ABB_04135759-5763	MOC-GC787-08-0089 [NOT AN E-MAIL]
5/2/08	BPEP_ABB_04135796-5797	MOC Review - MOC-GC787-07-0089 [NOT AN E-MAIL]
5/3/08	BPEP_ABB_04135677-5678	Gas Turbine Low Oil Pressure Trips Troubleshooting
5/21/08	BPEP_ABB_03565976-5977	FW: SEM 150 CPU Ram Chip
5/23/08	BPEP_ABB_03626303-6304	[NOT AN EMAIL] Letter from FMC to Broman/BP; Subject: Product Notification (Subsea Control Module - SEM150 CPU RAM Chip)
6/17/08	BPEP_ABB_04135739-5743	Turbine Generator #2 Investigation Findings, RCFA and Defect Elimination Process Report with attached Root Cause Failure Analysis Report.
6/18/08	BPEP_ABB_04135718-5723	JSEA for FMC Remote Login Well Commissioning Work
6/19/08	BPEP_ABB_03570183-0188	RE: Oil in Annulus on 822#9 due to ABV1&2 leaking
6/20/08	BPEP_ABB_03570124-0127	Spares listing for SPCU on PQ
7/25/08	BPEP_ABB_04135780-5781	MOC-GC787-08-0153 [NOT AN EMAIL]
7/25/08	BPEP_ABB_04135782-5795 [REDACTED]	MOC-GC787-08-0153 [NOT AN EMAIL]
7/25/08	BPEP_ABB_04135800-5801	MOC Review - MOC-GC787-08-0153 [NOT AN E-MAIL]
7/25/08	BPEP_ABB_04135802-5803	MOC-GC787-08-0153 [NOT AN EMAIL]
7/28/08	BPEP_ABB_03574176-4183	[NOT AN EMAIL] Work Control Certificate: 00002036 Permit Electrical Authorized
7/30/08	BPEP_ABB_03574021	RE: JPK Electronics Control Engineer to provide assistance
8/4/08	BPEP_ABB_03627539-7540	RE: Teleconference follow-up
8/4/08	BPEP_ABB_03627541-7543	RE: GC743, DC111 and DC112 Well Communication Reestablished
8/5/08	BPEP_ABB_03627433-7436	FW: Atlantis - update
8/5/08	BPEP_ABB_04135705-5709	FW: Atlantis - update

LIST OF BP DOCUMENTS RE: CONTROLS MALFUNCTIONS

LATEST DATE ON EMAIL(S) OR DOC DATE	BC#	EMAIL SUBJECT TITLE/DOCUMENT NAME (if not an Email)
8/6/08	BPEP_ABB_03627300	ALERT!!! - SPCU SBC Issue
8/6/08	BPEP_ABB_03627310-7311	Subsea Test System
8/6/08	BPEP_ABB_03627334-7335 (Disc Exh 221 - Berger Depo)	BP Atlantis Single Board Computer Issues Meeting Minutes - 8/04/08
8/6/08	BPEP_ABB_03627336-7337	PQ SBC Systemic Failures
8/6/08	BPEP_ABB_03627339-7341	RE: Subsea Communication Loss Detection on Thunder Horse and Atlantis
8/6/08	BPEP_ABB_03627348 (Disc Exh 220 - Berger Depo)	RE: Subsea Communication Loss Detection on Thunder Horse and Atlantis
8/6/08	BPEP_ABB_04135675-5676	FW: Subsea Communication Loss Detection on Thunder Horse and Atlantis
8/8/08	BPEP_ABB_03626991 (Disc Exh 222 - Berger Depo)	NOTHING IN SUBJECT LINE
8/10/08	BPEP_ABB_03626943	RE: DC122 Shut in
8/10/08	BPEP_ABB_03626944-6945	RE: DC122 Shut in
8/11/08	BPEP_ABB_03626829-6834	RE: DC113, OCSG 15607, POD Replacement Update/Extension Request for Continuous Annulus Monitoring
8/11/08	BPEP_ABB_04135804-5805	MOC Review - MOC-GC787-08-0180 [NOT AN E-MAIL]
8/11/08	BPEP_ABB_04135806-5807	Management of Change-GC787-08-0180 [NOT AN E-MAIL]
8/11/08	BPEP_ABB_04135808-5809	Management of Change-GC787-08-0180 [NOT AN E-MAIL]
8/12/08	BPEP_ABB_03626731-6736	RE: DC113, OCSG 15607, POD Replacement Update/Extension Request for Continuous Annulus Monitoring
8/13/08	BPEP_ABB_03626319-6324	RE: DC113, OCSG 15607, AMV Repair Work Update/Extension Request
8/13/08	BPEP_ABB_03626300-6304	RE: DC122 Shut-in Root Cause
8/13/08	BPEP_ABB_03626305-6307	BP Atlantis Single Board Computer Issues Meeting Minutes - 8/12/08
8/14/08	BPEP_ABB_03626249-6250 [REDACTED]	Request for DC113 SBC Software Changes
8/15/08	BPEP_ABB_03626098	RE: Learnings from DC122 Shut-in on 10-Aug-2008
8/17/08	BPEP_ABB_03626025	DC-122 SEM A Issues
8/18/08	BPEP_ABB_03587310-7312	RE: DC122 A - CONTINUOUS LINE A FAULT
8/18/08	BPEP_ABB_03587316	RE: DC-122 SEM A Issues
8/18/08	BPEP_ABB_03606612	RE DC-122 SEM A Issues
8/18/08	BPEP_ABB_03587313-7315	RE: DC-122 A - CONTINUOUS LINE A FAULT
8/19/08	BPEP_ABB_03587091-7096	RE: 122 Info
8/19/08	BPEP_ABB_03587114-7119	RE: 122 Info
8/19/08	BPEP_ABB_03587212-7216	RE: 122 Info
8/19/08	BPEP_ABB_03587243-7246	FW: 122 Info
8/20/08	BPEP_ABB_03586853 [ATTACHMENT DOCUMENTS REMOVED FROM LIST]	Atlantis --- SBC RCA update
8/20/08	BPEP_ABB_03587019-7026	RE: 122 Info
8/20/08	BPEP_ABB_03587047-7059	RE: 122 Info
8/21/08	BPEP_ABB_03579642	Emailing: SMT_Logs_20080820.zip
8/21/08	BPEP_ABB_03586626-6627	RE: update of RCA effort
8/21/08	BPEP_ABB_03586679-6681	RE: Atlantis --- SBC RAC update
8/21/08	BPEP_ABB_03586694	DC113 Software Upgrade and Failed Card Installation
8/21/08	BPEP_ABB_03586695-6696	Emailing: SMT_Logs_20080820.zip

LIST OF BP DOCUMENTS RE: CONTROLS MALFUNCTIONS

LATEST DATE ON EMAIL(S) OR DOC DATE	BC#	EMAIL SUBJECT TITLE/DOCUMENT NAME (if not an Email)
8/21/08	BPEP_ABB_03586773-6774 (Disc Exh 228 - Berger Depo)	RE: Honeywell screens
8/22/08	BPEP_ABB_03586423-6427	RE: BP Atlantis Single Board computer Issues Meeting Minutes - 8/12/08
8/25/08	BPEB_ABB_03586257-6261	RE: BP Atlantis Single Board Computer Issues Meeting Minutes - 8/12/08
8/26/08	BPEP_ABB_01518867-8869	Staff Meeting Notes
8/26/08	BPEP_ABB_03579591-9592 (Disc Exh 223 - Berger Depo)	RE: news on FMC Issues
8/26/08	BPEP_ABB_03668180	RE: Automation Techs on Atlantis
8/28/08	BPEP_ABB_03579417-9419	RE: news on FMC Issues
9/2/08	BPEP_ABB_03657231-7233	RE: FMC SPCU/SCU Test Simulator
9/4/08	BPEP_ABB_03657038-7039	RE: This is my contact
9/5/08	BPEP_ABB_03656770	RE: Subsea Controls Comms Check
9/8/08	BPEP_ABB_03656612-6623	FW: This is my contact
Undated	BPEP_ABB_03658137	Steps taken during Root Cause Analysis (RCA)
9/8/08	BPEP_ABB_03656681	RE: Subsea Alarms
9/9/08	BPEP_ABB_03656435	Atlantis Subsea Test Rack and Comms
9/10/08	BPEP_ABB_03657842-7843	Update on the Atlantis TPU
9/10/08	BPEP_ABB_04135669-5670	FW: Atlantis Subsea Test Rack and Comms
9/10/08	BPEP_ABB_04135810-5811	MoC Safety Hazard Analysis and Operability Review Form for MoC GC787-08-0194
9/10/08	BPEP_ABB_04135812-5813	MOC Review - MOC-GC787-08-0194 [NOT AN E-MAIL]
9/10/08	BPEP_ABB_04135814-5822	Management of Change-GC787-08-0194 with supporting Attachments (including e-mail)
9/10/08	BPEP_ABB_04135823-5824	Management of Change - MOC-GC787-08-0194
9/17/08	BPEP_ABB_03481773-1782	RE: Updated: TPU Boards
9/18/08	BPEP_ABB_03654495-4496	RE: SPCU Hardware Diagnostic Procedure
9/19/08	BPEP_ABB_03654432-4433	FW: SPCU hardware diagnostic procedure
9/22/08	BPEP_ABB_03630203-0204	RE: Smart Tool Logs
9/22/08	BPEP_ABB_03630237-0238	FW: BP atlantis TPU RCA
9/23/08	BPEP_ABB_03629977-9978	DC114 DHG Data Problem
9/23/08	BPEP_ABB_03629981-9982	RE: DC113 AMV override installed and in operation
9/23/08	BPEP_ABB_03657657	Temperature control in the SPCU cabinets
9/23/08	BPEP_ABB_04135710-5717	FW: Action Items from the meeting on 10th Sept 2008; FW: BP atlantis TPU RCA
9/24/08	BPEP_ABB_03629803	Atlantis TEM SBC Issues
10/22/08	BPEP_ABB_03658747-8755 [REDACTED]	RE: Telecon to discuss BP Atlantis communication failures
10/22/08	BPEP_ABB_03658778-8779	RE: SCSSV info
10/22/08	BPEP_ABB_04135827-5828	MoC Safety Hazard Analysis and Operability Review Form for MOC GC787-08-218
10/22/08	BPEP_ABB_04135829-5830	MOC Review - MOC-GC787-08-0218 [NOT AN E-MAIL]
	DOCUMENT REMOVED FROM LIST	

LIST OF BP DOCUMENTS RE: CONTROLS MALFUNCTIONS

LATEST DATE ON EMAIL(S) OR DOC DATE	BC#	EMAIL SUBJECT TITLE/DOCUMENT NAME (if not an Email)
10/28/08	BPEP_ABB_04135730-5738 [REDACTED]	Subsea Comms MOC-08-218 Hazard Review [attaches MOC Safety Hazard Analysis and Operability Review From - MOC Title: Enhance Subsea Comms, and ATL PQ Subsea Comms Enhancement Scope of Work, 1440-20-IC-2--SLC218-1 dated 10/28/08]
11/3/08	BPEP_ABB_03667331-7332	Ambient Conditions in Generation Module
11/6/08	BPEP_ABB_03666753	Re: DC123 Choke Problem
11/13/08	BPEP_ABB_00095536-5538	FW: Gasket removal tools and spares for Atlantis - requisition coding error
11/17/08	BPEP_ABB_03665528-5529	PEI Action Item: DC123 Choke Problem
11/19/08	BPEP_ABB_00103866	RE: Well valve timing
11/19/08	BPEP_ABB_03665147	RE: Well valve timing
11/19/08	BPEP_ABB_03665276-5282 [REDACTED - 03665281]	RE: Telecon to discuss BP Atlantis Communication failures
11/20/08	BPEP_ABB_03664978-4979	RE: BPAT SEM Time Watchdog
11/20/08	BPEP_ABB_03664980-4981	RE: BPAT SEM Time Watchdog
11/20/08	BPEP_ABB_03665027-5032	RE: Telecon to discuss BP Atlantis communication failures
11/27/08	BPEP_ABB_03664106-4119	FW: Bridging Procedure for DC121 for USE
	DOCUMENT REMOVED FROM LIST	
11/23/09	BPEP_ABB_00103175-3178	RE: NTL related to shut-down times and test frequencies
11/24/09	BPEP_ABB_03500136-0148	[NOT AN EMAIL] Gulf of Mexico SPU-Atlantis Engineering Workflow Process
12/9/09	BPEP_ABB_01464418-4432	[NOT AN E-MAIL] BP Atlantis DC3 FMC/Protec Quality Notification, Test HPUs not per Specification, HPU, Pressure Regulated Test Assembly, Part No. P1000058784, SN 3557 (QN200143677) Document Number 1440-38-QA-CR-3000 Rev. A
12/11/09	BPEP_ABB_04135831-5838 [REDACTED]	Atlantis PQ Subsea Comms Enhancements Scope of Work, Spec No. 1440-20-IC-SP-1000 attached MOC-GC787-08-0218 dated 10/22/08 [see entry in this timeline above for this date/MOC]
3/8/10	BPEP_ABB_00088942-8943	FW: EFL Locations - FMC vs. Technip Dwgs
	DOCUMENT REMOVED FROM LIST	
	DOCUMENT REMOVED FROM LIST	
12/15/10	BPEP_ABB_02176312-6317	[NOT AN E-MAIL] BP Atlantis DC1 FMC/Honeywell Service Notification, Failed BPAT TPU Board, Failed During Testing By Honeywell, Part No. P100036467, SN 0908374 (SN300249632) Document Number 1440-35-QA-CR-5021 Rev A.

From: Hickok, Doyle D (Aker Marine) [hickokdd@bp.com]
Sent: Tuesday, September 10, 2002 8:39 AM
To: 'Gipson, Les'; Ragan, Frank; Hickok, Doyle D (Aker Marine)
Cc: Torina Erick (E-mail); David D Whitehead (CSO-Aker) (E-mail); Rajam. Murthy (E-mail)
Subject: RE: Next Subsea / Topside Control Interface Meeting

Frank,Les

Sorry for the late response but I just found your messages on my e-mail. I too am tied up this week in preparation for being out next week and the following week. During my absence Dave Whitehead will act as the Atlantis subsea controls lead. During that time either he or Rajam Murthy can help with MCS matters.

To fill you in where we stand at the moment, we have pretty well settled on buying the MCS equipment from Honeywell and the SPCCUs with the TEMS inside from FMC. This has not gone thru official channels so should not be widely spread. I mention it because we have rewritten the specification for the equipment to match this split in work. The specification for the MCS to be supplied by Honeywell is presently being edited by Eric Torina who is also working on definition of the Thunder Horse equipment and software. Eric will finish the spec mid next week and will e-mail copies to you. I think we have captured our discussions and included additional descriptive information on how the system will work. This should give us a solid document on which we can base our future discussions and system definition.

At the risk of carrying over some terminology confusion the specification refers to the Honeywell supplied equipment as the MCS. The equipment to be supplied by FMC will be covered by a separate specification but is included to a small extent in the MCS spec to help identify areas of responsibility.

Les, I would appreciate if you will review the spec with respect to the operators view point. Are the mimic screens to your liking and have we covered the interlocks and shut-in sequences needed? If not please let us know.

Frank, I know it's not part of your work scope to review our specs but I would also appreciate your comments and any input that we might need to add to ensure that this equipment interfaces as smoothly as possible with the topsides Honeywell equipment.

Thanks

Doyle

-----Original Message-----
From: Gipson, Les [mailto:les.gipson@mustangeng.com]
Sent: Thursday, September 05, 2002 3:41 PM
To: Ragan, Frank; 'hickokdd@bp.com'
Subject: RE: Next Subsea / Topside Control Interface Meeting

Gents,

I am busy Monday afternoon, Wednesday & Thursday afternoons, but free all day Tuesday (best day for me). Pick anything with the exception of the above and I'll be there. I was unaware of the C&E matrix, but I'll get it reviewed over the weekend now that I know it exists. Let me know what you decide and have a good weekend.

Les

> -----Original Message-----
> From: Ragan, Frank
> Sent: Thursday, September 05, 2002 10:18 AM
> To: 'hickokdd@bp.com'
> Cc: Gipson, Les
> Subject: Next Subsea / Topside Control Interface Meeting
>
> Doyle,
>
> I would like to get together to further our discussion of shutdown logic for the subsea valves. I have put a cause & effect together for the interface (it has been issued for review, but not been accepted by operations yet), and would like to refine it for the HAZOP. I have attached the Excel file for you to review.
>
> Can we get a meeting together (with Les hopefully) for next week? I am busy Monday and Wednesday mornings, and Thursday afternoon. Otherwise I should be able to meet either here or there (Les - it looks like Tuesday or Friday would be best for you from your Mustang Calendar?).
>
> Let me know when and where.
>
> Thanks,
>
> Frank Ragan
> Mustang Engineering, L.P.
> Voice: (713)215-8151
> Fax: (713)215-8506
>
> << File: 1440-20-IC-SP-5608 RevA Cause & Effect Chart Subsea Control Interface.xls >>

From: Sustala, Dennis R
Sent: Tuesday, February 22, 2005 9:22 PM
To: Ragan, Frank (Mustang Engineering) <frank.ragan@mustangeng.com>
Subject: FW: List of Any Waivers / Exceptions Etc.
Attach: Timing Table 02-18-05.ppt

Frank - Doyle Hickock had a question about the fast choke closing time - see also list of new departure requests.

From: Ragan, Frank (Mustang Engineering)
Sent: Friday, February 18, 2005 8:42 AM
To: Sustala, Dennis R; DeJohn, Ken (BP); Dejohn, Kenneth P
Cc: Gipson, Les; Osborn, Linn (Mustang Engineering); Hesse, John (Mustang Engineering); Chumchal, William (Mustang Engineering)
Subject: RE: List of Any Waivers / Exceptions Etc.

Dennis,

I have revised the table for what I have from subsea. There was a change in the delay time for issuing a close to the PIV/CXV from 5 seconds to 30 seconds, and an extra 5 seconds added to the delay for USV-2 (a total of 50 seconds from the interlock trip) under PSL and ESD trips. I did not find the 20 minute delay for the USV in the process shutdown logic (Cause & Effects or PLC code) from subsea, but I am hesitent to reduce the timing from what was previously discussed (and seemingly accepted), those process shutdowns still have 20 minute delays for the USV's. If the MMS accepts the 20 minute delay, we may need an MoC to add it to our "real" programming.

The file is powerpoint, but the image on the slide is Visio (if you want to move it to a different document).

The Pump PSH listed below should really be PUMP PSL. We have a timed bypass on the low discharge of a pump to allow it to start.

As far as back-up information for the desired departures, I cannot gather all of the required information. Most of that information is within the process or mechanical engineer's realm. With my interface to all of the different teams, I am simply the person who hears about all of these different aspects of the job. I know a little (sometimes very little) about everything. The compressor blowdown issue will require input from the mechanical and process engineers, along with operations.

Frank

-----Original Message-----
From: Sustala, Dennis R [mailto:Dennis.Sustala@bp.com]
Sent: Thu 2/17/2005 6:22 PM
To: DeJohn, Ken; Dejohn, Kenneth P; Ragan, Frank
Cc: Gipson, Les
Subject: RE: List of Any Waivers / Exceptions Etc.

Brian D. at the MMS has indicated that he will not approve the PSS until we've received approval for the PDWOP. Initially Franks Table is related to the resolution of the PDWOP questions posed by the MMS. Brian has also requested that I restate these PDWOP waiver requests in the PSS (those related to the safety system). (I guess Brian wants to compare notes with the Region office).

I just need to be sure that I've hit on all the items in the PDWOP + any additional agreements discussed at the MMS meeting + (those creating a change in Franks table) + any additionals that engineering et al came up with when I write the letter for the PSS. Although the PDWOP is approved separately from the PSS - the issues and waivers will be need to be approved by both groups and in both documents.

Vessel PSL - We may be asked to provide a list for the Vessels that require the low pressure PSL waivers- I'll ask in general for a type approval. We can create a specific list if they so desire.

I will leave out the compressor blowdown item - We must assume standard blowdown until a clear argument is developed, presented and approved. I don't think we'd better mention unless we can support with data.

Flowline PSL downsteam - I assume this is the valve placement (downstream of the diverter) that MMS OK'd previously - I'll reference our prior approvals and discussions.

Pump PSH - I'll check the NTL for language - to see if it requires reference to the NTL or is a blanket approval if the specific condition exists.

From: DeJohn, Ken (BP)
Sent: Thursday, February 17, 2005 5:39 PM
To: Sustala, Dennis R; Dejohn, Kenneth P; Ragan, Frank (Mustang Engineering)
Cc: Gipson, Les
Subject: RE: List of Any Waivers / Exceptions Etc.

Dennis- Frank, Jim and I discussed an waivers which we may need to request at this time:

- Pump Discharge PSH- Defeat pump discharge PSH at start-up. Last week Jack said this is covered under a NTL and that a waiver is not required.
- Flowline PSL- Flowline PSL will be located downstream of the boarding valve. I think requires a waiver.
- Vessel PSL- We have most likely have some PSLs set below 5 psi since the system will operate around 6 psi. Until we put in service and run charts, it is difficult to say they will be below 5 psi. I guess the CFR requres MMS notification if PSLs are set below 5 psi. All PSLs in these systems have been installed.
- Compressor Blowdown- We would like to get a waiver from having to blowdown compressors in every case like Holstein. We do not have safety and operations agreement on the details of this waiver. It will not be just like the one that Holstein got and it may go a little further. We also do not have the technical argument developed with what safeguards are in place to support this waiver. You could mention it now but we would like to submit this later.

These are all the items we could come up with. Frank is working on updating the chart but he may not have it tomorrow. Why does this stuff need to go to the MMS with this package? They will have a lot of work to get started on.

Ken

-----Original Message-----
From: Sustala, Dennis R [mailto:Dennis.Sustala@bp.com]
Sent: Thursday, February 17, 2005 3:10 PM
To: DeJohn, Ken; Dejohn, Kenneth P; Ragan, Frank
Subject: List of Any Waivers / Exceptions Etc.

I understand that the drawings have been completed. I want to remind you that I need a list of waivers, exceptions, alternate compliance items.

Also - I need to get the final version of the Spreadsheet / Table showing shutdown times and sequences. Are there any other waivers/ exceptions, alternate compliance items that I need to add to the PDWOP / PSS documents before we send to MMS?

Attention:
This e-mail is confidential and may be protected by legal privilege. If you are not the intended recipient you should not copy it, re-transmit it, use it or disclose its contents, but should return it to the sender immediately and delete your copy from your system. Internet emails are not necessarily secure. The company does not accept responsibility for changes made to this message after it was sent.

While all reasonable care has been taken to avoid the transmission of viruses, it is the responsibility of the recipient to ensure that the onward transmission, opening or use of this message and any attachments will not adversely affect its systems or data. No responsibility is accepted by the company in this regard and the recipient should carry out such virus and other checks as it considers appropriate.

Attention:
This e-mail is confidential and may be protected by legal privilege. If you are not the intended recipient you should not copy it, re-transmit it, use it or disclose its contents, but should return it to the sender immediately and delete your copy from your system. Internet emails are not necessarily secure. The company does not accept responsibility for changes made to this message after it was sent.

While all reasonable care has been taken to avoid the transmission of viruses, it is the responsibility of the recipient to ensure that the onward transmission, opening or use of this message and any attachments will not adversely affect its systems or data. No responsibility is accepted by the company in this regard and the recipient should carry out such virus and other checks as it considers appropriate.

Topsides Shutdown Timing

bp

Valve	STROKE TIME (est.)	RISER PSL SD (affected Riser only)		OSD (five production risers)		PSD (all six risers)		[redacted]	
		COMMAND INITIATED	VALVE CLOSED	COMMAND INITIATED	VALVE CLOSED	COMMAND INITIATED	VALVE CLOSED	[redacted]	[redacted]
TOPSIDE CHOKE	15 - 20 sec	0	20	0	20	0	20		
PIG LAUNCHER SDVs	17 - 20 sec	0	20	0	20	0	20		
GAS LIFT SDVs	15 - 20 sec	0	20	0	20	0	20		
SUBSEA CHOKE	<60 sec	0	30	0	30	0	30		
BOARDING VALVE	< 40 sec	5	45	N/A	N/A	N/A	N/A		
PIV / CXV	< 40 sec	30	1:10	30	1:10	30	1:10		
USV	17 - 20 sec	50	1:10	20:00	20:20	20:00	20:20		
SCSSV	< 15 sec	2:30	2:45	N/A	N/A	N/A	N/A		
SUBSEA HYDRAULIC POWER UNIT (COMMUNICATIONS PRESENT)	N/A	N/A	N/A	N/A	N/A	N/A	N/A		
SUBSEA HYDRAULIC POWER UNIT (COMMUNICATIONS FAULTED)	N/A	ALARM ONLY	N/A	ALARM ONLY	N/A	ALARM ONLY	N/A		

- Timing figures are estimated based on preliminary data
- Operator may delay closure of SCSSV 5 minutes, up to 1 hour.
- If a communications failure occurs during an ESD event, the Hydraulic Power Unit is immediately tripped to bleed hydraulic pressure.

From: Ragan, Frank
Sent: Tuesday, July 26, 2005 11:05 AM
To: Gilliam , Ken; Ong, Chee-Seang; Nguyen, Steven
Subject: RE: Safety Action Close-outs

Follow Up Flag: Follow up
Flag Status: Flagged

I agree with Ken, Atlantis has already experienced the worst-case HVAC loss scenario. During the hurricane evacuation week-end, new firmware was installed in the VMS PLCs. During that process, combinations of generators, UPSs, HVAC, and lighting were shutdown. During this time, the VMS, OPC, and PES servers were all online and functional on battery back-up. The control room and equipment room were hot, but not exceeding 100 DegF. This exercise took several hours to complete.

There are also operational risks associated with moving the VMS & OPC servers to a remote location. The risks include access control, software maintenance, and communications. The equipment room will be a highly visible, nearly continuously occupied space. Anyone working on the servers in this location will be easily observed. The alternate location will not be continuously monitored, and potential mistakes could lead to control systems outages. Great care was taken to segregate the control systems from the other communication systems using similar hardware to minimize the potential confusion. Placing these systems back into a common, unattended space reintroduces this risk.

The servers will require regular back-ups and software maintenance, including the fail-over from A to B servers. If the servers are remotely located, the risks of an unintended system crash increase, by getting out of sequence with the remote operations. A central server room makes these operations a 'one-man' job, eliminating the communication issues.

Frank

-----Original Message-----
From: Gilliam , Ken
Sent: Tue 7/26/2005 10:36 AM
To: Ong, Chee-Seang; Nguyen, Steven
Cc: Ragan, Frank
Subject: Safety Action Close-outs

Chee

I believe I have responded to all of the Safety Action Items with the exception of FMEA-10. If you need anything else for any of them, please hassle me about them and I will respond – but until you hassle me, they are off of my hit list. I'll wait for some confirmation of this prior to making this claim to Barton.

As to killing off FMEA-10;

Although it is possible, we would prefer not to relocate this server as was recommended. The equipment room remains the best place for these servers. Neither have we implemented the internal server temperature feature as an alarm. This may be possible, but has not been done anywhere on the project.

What we can say is that we have operated without air-conditioning in the Equipment Room for over an hour without realizing an excessive temperature rise. We believe this mitigates any concern about this item, but I am struggling with how to document this.

I've copied Frank Ragan in hopes that he can add some meat to this argument. One solution (which I am somewhat reluctant to suggest) would be to document a test of this by killing HVAC one afternoon for an hour and noting the temperature of the room and/or the server. Since the system is running and a summer afternoon is the worst case scenario, this should satisfy all concerned, except - of course - those folks having to work in the Control Room that particular afternoon.

Ken

<<FMEA10.xls>>

Atlantis Management of Change

Date: 26 July 06 **MOC #:** 0962

ORIGINAL

Change:	**Autocrank Modification to Turbine Control Program**
Originator: Group & Name	Topsides [X] Floating System [ ] Subsea [ ] **Chuck Nagengast – BP Operations Engineering**
Change Description:	Dresser Rand shall modify the program in the turbine control panel to allow for a timed auto-crank of the engine following any normal stop or fast stop (excluding cases where the nature of the stop precludes rolling the engine). As this is due to a new requirement from GE regarding the operation of these engines, it is not a warranty issue and we need to pay Dresser Rand to make these changes.
Reason for Change:	In the latest version of the GE LM2500 Manual, GE added a new requirement for operation of these engines indicating that following a fast stop (i.e. no timed cool down fired run at idle speed as in a normal stop), the engine must be windmilled (cranked using the starter) within 15 minutes of the trip for a prescribed period of time or else the engine must not be started again for 4 hours. We manually crank the engine now under both this conditon and a normal stop so to prevent accidently exceeding the 15 minutes for the fast stop case we solicited a quote from Dresser Rand to automate this function whenever the shutdown conditions allow (e.g. if the engine tripped on high vibration it would not windmill)
Impacts: **(Cost, schedule, HSE)**	$4870.00 plus Serviceman's time to install and test the program modifications.

Hazard Analysis:	No new hazard. We are just automating a function we perform manually already. The normal turbine protection system prevents this cranking in either case if it cannot be done safely.

Recommendations:	Chuck Nagengast – BP Atlantis Rotating Equipment Technical Authority Implement this change.

Is further Hazard Analysis Required? Yes [ ] No [X]

Is a Site Query Required? Yes [ ] No [X] Attached:

Comments:

Determine if the procedures should be updated to reflect this change.

Routing & Approval

Title	Name	Signature	Date
Originator / Rotating Equipment Tech Authority	Chuck Nagengast		
Engineering Manager	K POE	K POE	8/28/06
Delivery Manager (if req'd)			
Operations	BARRY RUDOSS	[illegible]	8/28/06
HSER	D. CARTER	[illegible]	8/25/06
Other Delivery Teams			

Confirmation that MOC and all findings and recommendations have bee implemented:

K POE 12/20/07

Signature/Date:

You replied on 8/10/2006 5:16 PM.

Boudreaux, Percy J (Udelhoven)

From: Nagengast, Charles J **Sent:** Thu 8/10/2006 6:57 AM
To: Boudreaux, Percy (UDELHOVEN OIL SERVICE SYSTEMS (UOSS)); Brown, Bill (James W); Carter, Donnie J; DeJohn, Ken (BP); Gum, C. Wayne; LaRue, Kelley A; Osborn, Linn B (Mustang); Ragan, Frank (Mustang Engineering); Roades, Barth L; Waterhouse, David (GVA Consultants)
Cc: Chaney, Chris (Mustang Engineering); Voltz, Don (Mustang Engineering)
Subject: RE: MOC MOM 8/09/06
Attachments:

Percy:

What are the additional questions for Chuck Nagengast on the turbine auto crank MOC.

If someone could send me them I provide a list of answers for review.

Thanks

Chuck Nagengast
BP Gulf of Mexico Production Company
Rotating Equipment Technical Authority
Office – (281)-366-6169

From: Boudreaux, Percy (UDELHOVEN OIL SERVICE SYSTEMS (UOSS))
Sent: Wednesday, August 09, 2006 4:11 PM
To: Asander, Per; Barton, David (KBR); Boudreaux, Percy (UDELHOVEN OIL SERVICE SYSTEMS (UOSS)); Brown, Bill (James W); Carter, Donnie J; DeJohn, Ken (BP); Doucet, Janice F (UDELHOVEN OIL SERVICE SYSTEMS (UOSS)); Duplantis, Maxine C (ISI Moody International); Erb, Paul R; Eychaner, Lois D ; Gipson, Les; Gum, C. Wayne; Herrmann, Douglas T; Iqbal, Shahid; LaRue, Kelley A; myles.butler@mustangeng.com; Osborn, Linn B (Mustang); Ragan, Frank (Mustang Engineering); Roades, Barth L; Sorrel, David; Waterhouse, David (GVA Consultants); Watson, Valerie K (Udelhoven); Webb, Simon P

Cc: Chaney, Chris (Mustang Engineering); Nagengast, Charles J; Smit, Dirk; Voltz, Don (Mustang Engineering); Brooking, Royal

Subject: MOC MOM 8/09/06

All;

The attachment is the minutes of the MOC meeting held today, 08/09/06, for your review. Please submit any comments or corrections within the next twenty four hour period. Thanks in advance for your cooperation with the SQ/MOC process.

<< File: MOC MOM 08-09-06.doc (Compressed) >>
Regards,
Percy Boudreaux

Boudreaux, Percy (UDELHOVEN OIL SERVICE SYSTEMS (UOSS))

From: Nagengast, Charles J
Sent: Thursday, August 03, 2006 4:08 PM
To: Carter, Donnie J
Cc: DeJohn, Kenneth P; Boudreaux, Percy (UDELHOVEN OIL SERVICE SYSTEMS (UOSS))
Subject: RE: MOC Turbine Autocrank

Donnie:

I don't think we had ever formalized the manual crank within the SOP yet anyway it was just a result of passing on a best practice in one on one training with the Folks running the engine, so nothing would need to be changed.

Regards

Chuck Nagengast
BP Gulf of Mexico Production Company
Rotating Equipment Technical Authority
Office – (281)-366-6169

From: Carter, Donnie J
Sent: Thursday, August 03, 2006 3:51 PM
To: Nagengast, Charles J
Cc: DeJohn, Kenneth P; Boudreaux, Percy (UDELHOVEN OIL SERVICE SYSTEMS (UOSS))
Subject: RE: MOC Turbine Autocrank

Chuck,

Do operating procedures need to be revised to remove the manual actions? Otherwise, I am ok with this MOC.

Donnie

From: Nagengast, Charles J
Sent: Tuesday, August 01, 2006 10:01 AM
To: DeJohn, Kenneth P; Boudreaux, Percy (UDELHOVEN OIL SERVICE SYSTEMS (UOSS))
Cc: Carter, Donnie J
Subject: FW: MOC Turbine Autocrank

Ken / Percy:

Here is 0962 resubmitted with the Hazard section complete. Not sure why I forgot it on the original submittal.

Sorry for the miscue.

Regards

Chuck Nagengast
BP Gulf of Mexico Production Company
Rotating Equipment Technical Authority
Office – (281)-366-6169

<< File: ATL MOC LM2500 Autocrank.ZIP >>

From: Nagengast, Charles J
Sent: Wednesday, July 26, 2006 1:09 PM
To: DeJohn, Kenneth P; Boudreaux, Percy (UDELHOVEN OIL SERVICE SYSTEMS (UOSS))
Cc: Dunn, Barry E (UDELHOVEN OIL SERVICE SYSTEMS (UOSS)); 'Osborn, Linn (Mustang Engineering)'; Gipson, Les; Gruver, Jim J (HOU); Snyder, David D; Herrmann, Douglas T; Brown, Bill (James W); Roades, Barth L; LaRue, Kelley A; Monk, Gerald W.; Watson, Valerie K (Udelhoven); Ragan, Frank (Mustang Engineering); Carter, Donnie J; Richmond, Mike; Maw, Ronald E (AMEC); Johnson, James; Chancellor, Bob ; McClanahan, Ricky G; Rucker, Roy P
Subject: MOC Turbine Autocrank

Ken / Percy:

Attached is an MOC plus a proposal from Dresser Rand to modify the turbine controls to accommodate a new mandate from GE that appeared in the latest revision of their LM2500 manual regarding the operation of the LM2500 turbine.

It actually just automates the post run cool down crank we were doing manually anyway. However by automating it you avoid the risk of the 4 hour lockout now required by GE if this is not done following a fast shutdown.

I need to be involved in any further discussions of this proposed change to insure it is clearly interpreted.

Regards

Chuck Nagengast
BP Gulf of Mexico Production Company
Rotating Equipment Technical Authority
Office – (281)-366-6169

Boudreaux, Percy (UDELHOVEN OIL SERVICE SYSTEMS (UOSS))

From: Nagengast, Charles J
Sent: Tuesday, August 01, 2006 10:01 AM
To: DeJohn, Kenneth P; Boudreaux, Percy (UDELHOVEN OIL SERVICE SYSTEMS (UOSS))
Cc: Carter, Donnie J
Subject: FW: MOC Turbine Autocrank

Attachments: ATL MOC LM2500 Autocrank.doc (Compressed)

Ken / Percy:

Here is 0962 resubmitted with the Hazard section complete. Not sure why I forgot it on the original submittal.

Sorry for the miscue.

Regards

Chuck Nagengast
BP Gulf of Mexico Production Company
Rotating Equipment Technical Authority
Office – (281)-366-6169

ATL MOC LM2500 Autocrank.doc (...

From: Nagengast, Charles J
Sent: Wednesday, July 26, 2006 1:09 PM
To: DeJohn, Kenneth P; Boudreaux, Percy (UDELHOVEN OIL SERVICE SYSTEMS (UOSS))
Cc: Dunn, Barry E (UDELHOVEN OIL SERVICE SYSTEMS (UOSS)); 'Osborn, Linn (Mustang Engineering)'; Gipson, Les; Gruver, Jim J (HOU); Snyder, David D; Herrmann, Douglas T; Brown, Bill (James W); Roades, Barth L; LaRue, Kelley A; Monk, Gerald W.; Watson, Valerie K (Udelhoven); Ragan, Frank (Mustang Engineering); Carter, Donnie J; Richmond, Mike; Maw, Ronald E (AMEC); Johnson, James; Chancellor, Bob ; McClanahan, Ricky G; Rucker, Roy P
Subject: MOC Turbine Autocrank

Ken / Percy:

Attached is an MOC plus a proposal from Dresser Rand to modify the turbine controls to accommodate a new mandate from GE that appeared in the latest revision of their LM2500 manual regarding the operation of the LM2500 turbine.

It actually just automates the post run cool down crank we were doing manually anyway. However by automating it you avoid the risk of the 4 hour lockout now required by GE if this is not done following a fast shutdown.

I need to be involved in any further discussions of this proposed change to insure it is clearly interpreted.

Regards

Chuck Nagengast
BP Gulf of Mexico Production Company

Rotating Equipment Technical Authority
Office – (281)-366-6169

Boudreaux, Percy (UDELHOVEN OIL SERVICE SYSTEMS (UOSS))

From: Carter, Donnie J
Sent: Monday, July 31, 2006 6:24 PM
To: Boudreaux, Percy (UDELHOVEN OIL SERVICE SYSTEMS (UOSS))
Cc: Waterhouse, David (GVA Consultants)
Subject: RE: MOC's 0962 & 0963

Percy,

MOC 962 needs the hazard analysis section completed. 963 will need a hazard review. Please coordinate with Dave Waterhouse.

Donnie

From: Boudreaux, Percy (UDELHOVEN OIL SERVICE SYSTEMS (UOSS))
Sent: Wednesday, July 26, 2006 2:49 PM
To: Asander, Per; Barton, David (KBR); Boudreaux, Percy (UDELHOVEN OIL SERVICE SYSTEMS (UOSS)); Brown, Bill (James W); Carter, Donnie J; DeJohn, Ken (BP); Duplantis, Maxine C (ISI Moody International); Erb, Paul R; Gipson, Les; Gum, C. Wayne; Herrmann, Douglas T; Iqbal, Shahid; LaRue, Kelley A; myles.butler@mustangeng.com; Osborn, Linn B (Mustang); Ragan, Frank (Mustang Engineering); Roades, Barth L; Waterhouse, David (GVA Consultants); Watson, Valerie K (Udelhoven)
Cc: Smit, Dirk; Nagengast, Charles J
Subject: MOC's 0962 & 0963

All,

Attached for your review and approval are MOC's 0962 & 0963 submitted by Chuck Nagengast this afternoon.

<< File: MOC 0962.ZIP >> << File: MOC 0963.ZIP >>
Regards,
Percy Boudreaux

Atlantis Management of Change

Date: 26 July 06 MOC #: 0962

Change:	**Autocrank Modification to Turbine Control Program**
Originator: Group & Name	Topsides [X] Floating System [ ] Subsea [ ] **Chuck Nagengast – BP Operations Engineering**
Change Description:	Dresser Rand shall modify the program in the turbine control panel to allow for a timed auto-crank of the engine following any normal stop or fast stop (excluding cases where the nature of the stop precludes rolling the engine). As this is due to a new requirement from GE regarding the operation of these engines, it is not a warranty issue and we need to pay Dresser Rand to make these changes.
Reason for Change:	In the latest version of the GE LM2500 Manual, GE added a new requirement for operation of these engines indicating that following a fast stop (i,e. no timed cool down fired run at idle speed as in a normal stop), the engine must be windmilled (cranked using the starter) within 15 minutes of the trip for a prescribed period of time or else the engine must not be started again for 4 hours. We manually crank the engine now under both this conditon and a normal stop so to prevent accidently exceeding the 15 minutes for the fast stop case we solicited a quote from Dresser Rand to automate this function whenever the shutdown conditions allow (e.g. if the engine tripped on high vibration it would not windmill)
Impacts: **(Cost, schedule, HSE)**	$4870.00 plus Serviceman's time to install and test the program modifications.

Hazard Analysis:	
Recommendations:	Chuck Nagengast – BP Atlantis Rotating Equipment Technical Authority Implement this change.

Is further Hazard Analysis Required? Yes ☐ No ☐

Is a Site Query Required? Yes ☐ No ☒ Attached:

Comments:

Routing & Approval

Title	Name	Signature	Date
Originator / Rotating Equipment Tech Authority	Chuck Nagengast		
Engineering Manager			
Delivery Manager (if req'd)			
Operations			
HSER			
Other Delivery Teams			

Confirmation that MOC and all findings and recommendations have bee implemented:

Signature/Date:

DRESSER-RAND

Product Services
2444 Dumont Drive
P.O. Box 560
Baton Rouge, LA 70815
Tel: 225-275-6842
Fax: 225-274-3458
www.dresser-rand.com

June 5, 2006

Mr. Chuck Nagengast
BP Exploration & Production Inc.
BP Gulf of Mexico Deepwater Production
200 Westlake Park Boulevard
Houston, TX 77079

SUBJECT: **Software Upgrades for Cooldown Crank**

REFERENCE: **BP Atlantis Generator Sets (CT 40334)**

Dear Mr. Nagengast:

Based on our previous correspondence and discussions, Dresser-Rand is pleased to offer our proposal for making the following subject changes in the control software for the referenced generator sets:

- Revising the ladder logic and HMI database for each unit.
- Revising the operating description (common to all units per project).
- Updating the operation manual with the revised software printouts and operating description (common to all units per project).

We offer these modifications for all three (3) of the **BP Atlantis** generator units for the total price of **$4,870.00**.

NOTES and CLARIFICATIONS:

1. The autocrank will initiate at or below 300 RPM if no interlocks due to any trips which cannot be cleared are still in effect (this is the same way it works now, except now it is put to manual crank). The autocrank will come on for non-critical shutdowns, or any trip that can be cleared to satisfy the normal interlocks currently in place for manual cranking.

DRESSER-RAND

Product Services
2444 Dumont Drive
P.O. Box 560
Baton Rouge, LA 70815
Tel: 225-275-6842
Fax: 225-274-8458
www.dresser-rand.com

2. The manual cranking speed was raised to 2000 RPM to avoid low oil pressures.

3. There will be no four (4) hour auto lockout. For "critical" shutdowns, the units will autocrank once the operator clears and resets the trip condition, and initiates the "lockout bypass" via button/mouse click on the HMI screen. The "lockout bypass" button will be accompanied by some warning text on the screen, and will be followed by a confirmation dialog box that must be answered to complete the sequence.

4. These proposed changes are as per BP's request, and any potential damage risk to the referenced equipment shall be at BP's discretion, and in the event of damage - remedied to their account.

5. The quoted price does not include installation or testing, which can be offered per our standard BP GOM field service rates.

6. Terms and conditions are as defined by the D-R/BP PSA no. C-010-PSA-001.

We appreciate the opportunity to work with you on this project. Should you have any questions, or require additional information, please give me a call at (225) 933-4484, or email michael_j_tooley@dresser-rand.com.

Sincerely,
DRESSER-RAND

Michael J. Tooley
Account Manager – Gulf South East

Boudreaux, Percy (UDELHOVEN OIL SERVICE SYSTEMS (UOSS))

From: Nagengast, Charles J
Sent: Wednesday, July 26, 2006 1:09 PM
To: DeJohn, Kenneth P; Boudreaux, Percy (UDELHOVEN OIL SERVICE SYSTEMS (UOSS))
Cc: Dunn, Barry E (UDELHOVEN OIL SERVICE SYSTEMS (UOSS)); 'Osborn, Linn (Mustang Engineering)'; Gipson, Les; Gruver, Jim J (HOU); Snyder, David D; Herrmann, Douglas T; Brown, Bill (James W); Roades, Barth L; LaRue, Kelley A; Monk, Gerald W.; Watson, Valerie K (Udelhoven); Ragan, Frank (Mustang Engineering); Carter, Donnie J; Richmond, Mike; Maw, Ronald E (AMEC); Johnson, James; Chancellor, Bob ; McClanahan, Ricky G; Rucker, Roy P
Subject: MOC Turbine Autocrank

Attachments: BP_coldcrank_ATL.pdf; ATL MOC LM2500 Autocrank.doc (Compressed)

Ken / Percy:

Attached is an MOC plus a proposal from Dresser Rand to modify the turbine controls to accommodate a new mandate from GE that appeared in the latest revision of their LM2500 manual regarding the operation of the LM2500 turbine.

It actually just automates the post run cool down crank we were doing manually anyway. However by automating it you avoid the risk of the 4 hour lockout now required by GE if this is not done following a fast shutdown.

I need to be involved in any further discussions of this proposed change to insure it is clearly interpreted.

Regards

Chuck Nagengast
BP Gulf of Mexico Production Company
Rotating Equipment Technical Authority
Office – (281)-366-6169

BP_coldcrank_ATL.pdf (49 KB)

ATL MOC LM2500 Autocrank.doc (...

From: Powell, Joe
Sent: Monday, December 10, 2007 12:45 PM
To: G GOM ATLANTIS LEADERSHIP; Oneto, Rick; Todd, Simon P; Taylor, Alastair; Smit, Dirk; Gum, C. Wayne; Lowe, Jon D; DeJohn, Kenneth P; Imm, Gary R; Sills, Greg S; Messinger, Mark A
Subject: DOA

I will be leaving the PQ late this afternoon. Thomas Ahlf has my DOA for all matters on the PQ except for personnel related issues and budget related items from today 12/10/07 until tomorrow 12/11/07. On 12/11/07, Scotty Orr has my DOA until Ricky Harrison returns from vacation on 12/18/07.

Since Ricky is on vacation, if an emergency requires direct contact with one of us, please contact me. I will take Ricky's calls so that he can enjoy a well deserved vacation.

Regards,

Joe Powell
Atlantis OIM
DWP_GOM Health Champion

Wilson, James

From: Watson, Valerie K (Udelhoven) [Valerie.Watson@bp.com]
Sent: Monday, December 17, 2007 10:08 AM
To: Wilson, James
Cc: Boudreaux, Percy J (Udelhoven)
Subject: FW: MOC-0962 T-Gen autocrank modifications

From: Orr, Scotty
Sent: Monday, December 17, 2007 9:53 AM
To: Snyder, David D
Cc: Roades, Barth L; Boudreaux, Percy J (Udelhoven)
Subject: RE: MOC-0962 T-Gen autocrank modifications

ASOIModesignate - Approved

<<OIM DOA.rtf>>

From: Snyder, David D
Sent: Monday, December 17, 2007 9:52 AM
To: Orr, Scotty
Cc: Roades, Barth L; Boudreaux, Percy J (Udelhoven)
Subject: FW: MOC-0962 T-Gen autocrank modifications

Scotty,

I'm good with it.

Thanks,

Dave Snyder
Atlantis Maintenance Team Leader
Office: 337-735-2206

From: Roades, Barth L
Sent: Monday, December 17, 2007 9:22 AM
To: Snyder, David D
Cc: Orr, Scotty; Boudreaux, Percy J (Udelhoven)
Subject: MOC-0962 T-Gen autocrank modifications

Dave,

Can you give your blessing that you're good with closing this one out.
<\\bp1atnis001\group\atlantis\ATLANTIS_OPS\Operations\MOC\HUC MOCs\0962.pdf>

Forward to Scotty if your OK so he can approve to close.

Barth

From: Peloubet, Robert R <Robert.Peloubet@bp.com>
Sent: Monday, January 22, 2007 7:26 PM
To: Oneto, Rick <Rick.Oneto@BP.com>
Cc: DeJohn, Kenneth P <Kenneth.DeJohn@BP.com>; Ragan, Frank (Mustang Engineering) <frank.ragan@mustangeng.com>; Brown, Bill (James W) <Bill.Brown@BP.com>; Maxwell, Steve J (Gregg Valdes) <Steve.Maxwell@BP.com>; Roades, Barth L <Barth.Roades@BP.com>; LaRue, Kelley A <Kelley.LaRue@BP.com>; Carter, Donnie J <Donnie.Carter@BP.com>; Rayburn, Dean M <Dean.Rayburn@BP.com>; Goodrich, Stephanie <Stephanie.Goodrich@BP.com>; Gray, Thomas B <Tom.Gray@BP.com>; Judice, Ted P <Ted.Judice@BP.com>
Subject: RE: Operations Managers Meeting and Higher -

Rick,

I completely agree that any software upgrade/update/modification be approved through a MoC, regardless of who is requiring the change. This was one of the issues in the Holstein turbine generator backfire incident, and your aux generator incident. The Atlantis team is the responsible party for changes to the asset, and this does include software changes. For the change being proposed for PHD/PI, if there is a new architecture then Digital Security should be able to provide documentation suitable for the MOC. If they can't, then you should stop the job until they can provide the appropriate documentation.

Software updates will be needed, we live in a digital world. Where we've been successful is when we understand what the change is for, how should it occur (installation procedure), what could go wrong (including knowing the consequences) and what assurance is needed (testing; upgrade backup server first; perform during turnaround; etc). Where we've been unsuccessful is when one or more of these steps was bypassed.

Regards,

Bob

Bob Peloubet, P.E.
Deputy SPU Engineering Authority
BP Gulf of Mexico
☎ *281.366.5481*

"CONFIDENTIALITY NOTICE: This message is intended only for the use of the individual or entity to which it is addressed and may contain information that is confidential. If you have received this message in error, please notify the sender immediately and delete the e-mail and any attachments from your computer and files. Thank you."

From: Oneto, Rick
Sent: Monday, January 22, 2007 5:10 PM
To: Peloubet, Robert R
Cc: DeJohn, Kenneth P; Ragan, Frank (Mustang Engineering); Brown, Bill (James W); Maxwell, Steve J (Gregg Valdes); Roades, Barth L; LaRue, Kelley A; Carter, Donnie J; Rayburn, Dean M; Goodrich, Stephanie; Gray, Thomas B
Subject: FW: Operations Managers Meeting and Higher -
Importance: High

Frank,

I did not get this email directly but will answer one of your questions. It is my expectation that any software upgrade be required to fulfill all the elements of an MOC in order to ensure we have covered all avenues of potential impact should something go wrong. The MOC process is structured to enable proper evaluation doing the upgrade prior to execution of the download and may also require a HAZID or HAZOP. This is the primary reason, but not the only reason, why we are building a second Operator Training Simulator for the Houston office. In my opinion software upgrades constitutes a change in logic. Maybe not control logic but base operating system logic and therefore requires an MOC.

These requirements apply to the GoM Functional teams as well as the Atlantis PU personnel and I will fully support any "Stop the Job" accordingly.

Bob,

Please scroll down to the email from Frank Ragan and weigh in on this if necessary.

Regards,

Rick Oneto
BP America, Inc.
Operations Manager - Atlantis
281-366-4061 (Office)

From: Brown, Bill (James W)
Sent: Monday, January 22, 2007 2:54 PM
To: Oneto, Rick; Goodrich, Stephanie; Rayburn, Dean M; Carter, Donnie J
Cc: Ragan, Frank (Mustang Engineering); Maxwell, Steve J (Gregg Valdes); Roades, Barth L; LaRue, Kelley A
Subject: Operations Managers Meeting and Higher -
Importance: High

During today's discussion regards the PLC logic changes and the resulting problems of the Aux Generator I recalled the email below.

I think that BP needs to come to grips with the heavy dependence on software computer programs and how much they impact our production and our safety.

We need a way and means to have the logic or software changes MOC and checked to prevent what happened on the PLC 8 and Aux Generator from reoccurring.

There is not (to my knowledge) any requirement for MOC of software and/or logic changes/updates/upgrades/etc.

This is not going to be able to be handled by our current MOC review process because most of us are not literate enough on software to actually understand the changes being made and their impacts.

BP needs to get a group of people together that understand this and probably fairly quickly and they need to be workers not managers

It needs to be done based on experience and knowledge and not on years of service in the company

---

From: Brown, Bill (James W)
Sent: Sunday, January 21, 2007 4:48 PM

To: Oneto, Rick; Goodrich, Stephanie
Cc: Ragan, Frank (Mustang Engineering); Maxwell, Steve J (Gregg Valdes); Roades, Barth L; LaRue, Kelley A
Subject: RE: Additional Equipment for Atlantis

way over my head and looks like this needs to get kicked up into Operations Managers to come up with a business plan and person responsible for the entire GOM before we have a major incident which might be repeated on more than one asset

---

From: Ragan, Frank [mailto:Frank.Ragan@mustangeng.com]
Sent: Sunday, January 21, 2007 12:23 PM
To: Maxwell, Steve J (Gregg Valdes); Brown, Bill (James W)
Cc: Goodrich, Stephanie
Subject: RE: Additional Equipment for Atlantis

Bill & Steve,

I'm glad this issue came up, I have a similar MoC/ no MoC issue I would like to bring some attention to.

First, my thoughts on the PI/PHD issue. This implementation is not yet complete. There was no specific design for where certain pieces of software would reside, and so, the design has evolved over time. I agree that the change is for the better, but I am not aware of an issued document that forms the design basis and the foundation for future changes. I think that there should be a document, either a high level drawing or a text description, that defines what software is located where, used by who, for what purpose. Then we would all be on the same page. An MoC now would have no previous document to reference, but could introduce this document.

My issue is Microsoft updates and their application to the control system. You may or may not have noticed that Microsoft releases patches and security updates for their software on a frequent basis. Some vendors, like Honeywell, test these updates and issue them as approved for their systems. Most vendors do not test or issue statements. BP internally has a group that reviews these updates, and make recommendations regarding the criticality of the update, Steve has been distributing these notices.

What this boils down to is, should these updates be MoC'ed? Would this review be any more than a rubber stamp of the vendor/BP/Honeywell recommendation (none of our team really has the experience to make a judgment)? There is a risk that fixing one bug would introduce another, and any time we reload an operating system, there's a risk of problems. In most cases, we would identify the problem when updating the backup computer first, but it's not unperceivable that a bug might get introduced that affects the ability to control the platform someday. Who would take responsibility for fixing something that wasn't broke, and impacting production?

A third issue is a report that the IMMS will receive an upgrade in it's software soon. Again, can BMT and Pierre make this decision on their own? This system is live.

I think all of these issues are similar. They deal with the control system software, and how different teams access data, and who manages the updates. There should be some clear direction on who has the authority to make these changes, and when an MoC or other review is required.

Frank

From: Maxwell, Steve J (Gregg Valdes) [mailto:Steve.Maxwell@bp.com]
Sent: Fri 1/19/2007 10:01 AM
To: Brown, Bill (James W)
Cc: Goodrich, Stephanie; Ragan, Frank
Subject: RE: Additional Equipment for Atlantis

Bill,

The actions around #2 are basically to move a piece of PI software that currently resides on the PHD server and locate it on another server. The mechanism of the data transfer remains the same, we're just

segregating the hardware to better fit with BP Digital Security's current strategies. Doing this will also keep SAIC from needing access to the PHD server to manage the PHD-to-PI data flow.

I've copied Frank Ragan on this note to get is comments if an MOC is necessary. Personally, I don't see this interrupting anything as we are still pre-First Oil.

Thanks,
Steve Maxwell
Consultant - Gregg Valdes & Associates, Ltd

BP GOM DWD - IT Systems/Operational Readiness - Atlantis
Room 1797A
200 WestLake Park Blvd; Houston, TX 77079 USA
Tele: +1 281 366 6593 Mobile: Fax: 713 647 7558
Email: steve.maxwell@bp.com

> _____
> From: Brown, Bill (James W)
> Sent: Thursday, January 18, 2007 6:51 PM
> To: Maxwell, Steve J (Gregg Valdes)
> Cc: Goodrich, Stephanie
> Subject: RE: Additional Equipment for Atlantis
>
> Steve:
>
> I'll let Stephanie respond regards budget and approval. I'm not too
> concerned with your 1st item - UPS already being supplied so not a
> real change to have stand alone unit.
>
> However, if I understand your second item you intend to change the way
> that data flow is going currently and remove software that currently
> exists on the Honeywell server? If this is correct, are we needing an
> MOC review and guarantees that we are not going to disrupt something
> and/or cause some problems? We just went through an Aux Gen issue due
> to software change.
>
> Thanks, Bill B.
>
> _____
> From: Maxwell, Steve J (Gregg Valdes)
> Sent: Thursday, January 18, 2007 4:49 PM
> To: Goodrich, Stephanie; Roades, Barth L; Brown, Bill (James W)
> Cc: LaRue, Kelley A
> Subject: Additional Equipment for Atlantis
>
> All,
>
> I would like to order the following equipment for Atlantis. Please
> review and let me know if this is OK to proceed using 8:A:F money:
>
> 1. UPS Equipment for second server rack. Approximately $1,600. With
> ISSOW on the way, we will begin to populate the second server rack in
> the Communications Equipment Room (LQ1603). We originally did not
> include UPS equipment for the server racks due to the power already
> being on UPS. However, we added stand-alone UPS equipment to the
> primary rack due to reliability issues with the facility UPS system.
> My recommendation is to install identical UPS equipment in the second
> server rack.
>
> 2. Dell 1950 Server for PHD to PI data flow. Approximately $7,000.
> BP Digital Security's current philosophy is to separate access to the
> Process Control Network (PCN) via a Process Information Network (PIN).
> The present method of PHD-to-PI data utilizes PI software on the PHD

> server, and the data flow goes from the PCN to the COE network. A
> separate server on the PIN would remove non-Honeywell software from
> the PHD server and modify the data flow to confirm with BP Digital
> Security standards. An additional advantage would be faster recovery
> time of real-time data in PI after a communication outage.
>
> If you want to discuss this further, please let me know. If approved,
> I will get the orders processed immediately.
>
> Thanks,
>
> Steve Maxwell
> Consultant - Gregg Valdes & Associates, Ltd
>
> BP GOM DWD - IT Systems/Operational Readiness - Atlantis
> Room 1797A
> 200 WestLake Park Blvd; Houston, TX 77079 USA
> Tele: +1 281 366 6593 Mobile: Fax: 713 647 7558
> Email: steve.maxwell@bp.com
>

Case 4:09-cv-01193 Document 343-7 Filed in TXSD on 04/04/12 Page 35 of 75

Engineering Change Note: CM 500000059845

FMC Technologies

Description: 4152 BP Atlantis Distribution: Morten Moen, Thor Stensrud, Geir Stuestøl, Helge Haugen.			
Reason for change: New TPU Software Release 163.2.4.			
Valid from: 07.02.2007	Status: 01	Prep. by: Helge K Haugen	ECN class: Class 3 - New Issue

Obj. type	Object	Sheet (Part)	Vers.	New Rev.	Change Description	Alternative Date
Document	SPC SPC-0000023993	000	02	B	Control System SW BP Atlantis	
					New Atlantis Release.	
Document	SPC SPC-0000026602	000	00	A	KS 200/150 Control Sys. SW Build 163.2.4	
					TPU SW Release 163.2.4.	

BPEP_ABB_03665283

Case 4:09-cv-01193 Document 343-7 Filed in TXSD on 04/04/12 Page 36 of 75

Engineering Change Note: CM 500000060416

FMC Technologies

Description: 4152 BP Atlantis Distribution: Thor Stensrud, Morten Moen, Geir Stuestøl, Helge Haugen.			
Reason for change: New TPU Software Release 163.2.5.			
Valid from: 13.03.2007	Status: 01	Prep. by: Helge K Haugen	ECN class: Class 3 - New Issue

Obj. type	Object	Sheet (Part)	Vers.	New Rev.	Change Description	Alternative Date
Document	SPC SPC-0000023993	000	03	C	Control System SW BP Atlantis	
					New Atlantis TPU release.	
Document	SPC SPC-0000026669	000	00	A	KS 200/150 Control Sys. SW Build 163.2.5	
					New TPU release 163.2.5.	

BPEP_ABB_03665284

From: Maxwell, Steve J (Gregg Valdes)
Sent: Saturday, September 22, 2007 3:39:57 PM
To: Oneto, Rick; Todd, Simon P; Taylor, Alastair; Smit, Dirk; Lowe, Jon D; LaRue, Kelley A; Gum, C. Wayne; DeJohn, Kenneth P
CC: Ragan, Frank; Russell, Virgil; McCollum, Chris; Gold, Henry (Udelhoven); Jackson, Newton C
Subject: RE: Status Update Saturday 12:25

Rick,

I just got off the phone with Newt Jackson, Daryle Stoneburner and Broadpoint. Satellite comms have been up for about 20 minutes now (both links), and Daryle has tested regular telephones. The next steps will be to ensure that the firewall and email server are operational.

Please contact me on my mobile if you need anything.

Thanks,
Steve Maxwell
Gregg Valdes & Associates, Ltd

Room 422C - WL2
200 Westlake Park Blvd, Houston, TX 77079, USA
Tel: +1 281 366 6593 Fax: +1 713-647-7558 Cell:
Email: steve.maxwell@bp.com

From: Oneto, Rick
Sent: Saturday, September 22, 2007 1:59 PM
To: Todd, Simon P; Taylor, Alastair; Smit, Dirk; Lowe, Jon D; LaRue, Kelley A; Gum, C. Wayne; DeJohn, Kenneth P
Cc: Ragan, Frank; Maxwell, Steve J (Gregg Valdes); Russell, Virgil; McCollum, Chris; Gold, Henry (Udelhoven)
Subject: RE: Status Update Saturday 12:25

Update as of 1:55PM

The PQ team is progressing with black start. The problem with the control system has been resolved and the Aux. Generator is running. They are currently ventilating the hull spaces and will start the Turbine soon. The two afternoon flights have been cleared by the OIM to bring the next batch of passengers out to the PQ.

Regards,

Rick Oneto
BP America, Inc.
Operations Manager - Atlantis
281-366-4061 (Office)

From: Oneto, Rick
Sent: Saturday, September 22, 2007 1:14 PM
To: Todd, Simon P; Taylor, Alastair; Smit, Dirk; Lowe, Jon D; LaRue, Kelley A; Gum, C. Wayne; DeJohn, Kenneth P
Cc: Ragan, Frank; Maxwell, Steve J (Gregg Valdes); Russell, Virgil; McCollum, Chris; Gold, Henry (Udelhoven)
Subject: RE: Status Update Saturday 12:25

Contacted Virgil Russel and placed a hold on the afternoon flights.

Frank Ragan has made contact with the PQ. Currently they have the Emergency Generator running and trying to black start again. Frank thinks the black start procedure is out of sequence some way. They have now progressed past the point where they were being shut down and are trying to get the platform up. Will keep you updated.

Spoke with Alastair and agreed the Emerald should still progress to the field.

For everyone who is trying to change flight manifests remember there is a homeland security regulation about having the names on the manifest 24 hours in advance of the flight departure. We need to let Jon Lowe coordinate this or turn it over to someone else, but we can not have numerous people making changes on the fly.

Regards,

Rick Oneto
BP America, Inc.
Operations Manager - Atlantis
281-366-4061 (Office)

From: Oneto, Rick
Sent: Saturday, September 22, 2007 12:46 PM
To: Todd, Simon P; Taylor, Alastair; Smit, Dirk; Lowe, Jon D; LaRue, Kelley A; Gum, C. Wayne; DeJohn, Kenneth P
Cc: Ragan, Frank; Maxwell, Steve J (Gregg Valdes)
Subject: Status Update Saturday 12:25

We have a problem with the control system. As they begin the black start the control system is sending a signal to shut down the generators. I have called Frank Ragan to have him contact the PQ on the following sat phone: 881641431879.

If Rickey can not get the control system straightened out he wants us to cancel the remaining two flights and send out empty helicopters to pick up the start-up crew and start again tomorrow. The drop dead time for that decision is 3PM.

I will called Steve Maxwell to help establish comms. The number mentioned is a hand held Sat phone and it needs to be on the deck to receive a call.
The CCR is 881621466669, OIM 881621466670.

Regards,

Rick Oneto
BP America, Inc.
Operations Manager - Atlantis
281-366-4061 (Office)
)

From: Oneto, Rick
Sent: Saturday, September 22, 2007 9:51 AM
To: Todd, Simon P; Taylor, Alastair; Smit, Dirk; Lowe, Jon D; LaRue, Kelley A; Gum, C. Wayne; DeJohn, Kenneth P
Subject: Status Update Saturday Morning

- Both early flights have departed Houma with everyone on board.
- All personnel except for Andy Easler are confirmed for departure on afternoon flights to PQ.
- Bubba has been given the names of the people scheduled for flights tomorrow from the prelimiary manifests sent out by Kelley this morning @ 9:26AM
- Alastair has been notified that no one from Operations has contacted Cetco or BJ and asked if Steve Bish and Ken DeJohn could make that contact.
- John Rougeau has confirmed that the C-Carrier will have all Atlantis cargo loaded onto it and depart this afternoon for the PQ, Henry will coordinate.

Regards,

Rick Oneto
BP America, Inc.

Operations Manager - Atlantis
281-366-4061 (Office)

From: DeJohn, Kenneth P
Sent: Monday, September 24, 2007 6:34 AM
To: Ragan, Frank
Cc: Taylor, Alastair
Subject: RE: Evac and Blackstart Issues

Frank,

I totally agree. Are there also some software changes required?

Let's discuss how to get this review organized.

Ken DeJohn
BP Atlantis
Office: 281-366-6381

From: Ragan, Frank
Sent: Monday, September 24, 2007 5:52 AM
To: DeJohn, Kenneth P
Cc: Taylor, Alastair
Subject: Evac and Blackstart Issues

Ken,

After the events of this past weekend, I think it would be beneficial to have a review of the current Evac and Blackstart procedures. I don't know if there were errors in the procedures, or errors interpreting those procedures, but I know there is room for improvement.

I have some ideas for improvements to the control system hardware and programming, based on the blackstart troubles, to make it more robust. It would be nice to combine these changes with any actions generated from the review to create an MoC for Evac / Blackstart issues.

My suggestion for attendees would be:

Don Voltz
Jim Nance
Steve Picket
Josh Little
Frank Ragan
Ken Gilliam

This isn't tied to first oil, but could become an issue at any time.

Frank

From: Lowe, Jon D
Sent: Tuesday, October 02, 2007 12:49 PM
To: DeJohn, Kenneth P; Ragan, Frank
Subject: FW: Hurricane Evacuation and Relivening Lessons Learned

---

From: Harrison, Rickey
Sent: Tuesday, September 25, 2007 9:29 AM
To: Lowe, Jon D
Cc: Oneto, Rick; Powell, Joe
Subject: FW: Hurricane Evacuation and Relivening Lessons Learned

Please review learning's from all the teams on our recent Hurricane Evacuation and re-mob of the PQ. I will be following up with the teams on developing a checklist to ensure closure of the actions that need to be addressed and closed.

Rickey Harrison
Atlantis OIM
Deep Water Production
Office - (337) 735 - 2201
Cell-

From: Snyder, David D
Sent: Monday, September 24, 2007 7:29 PM
To: Harrison, Rickey; Powell, Joe
Cc: Snyder, David D; Ahlf, Thomas W; Drennan, Doug; Gruver, Jim J (HOU); Ball, Connie
Subject: Hurricane Evacuation and Relivening Lessons Learned

Rickey,

I have the input from the other teams for inclusion into Lessons Learned for our recent evacuation. Additionally I would like to document some of our findings that resulted in the Emergency Generator shutting down while we were gone. I'm only sending this to a few folks now so that we can be sure that we've captured everything correctly prior to wider distribution.

Prior to Abandonment

1. We currently stage two SCBA units in the Dirty Break Room. We need to have four of them. This will allow us to have one team sweeping the Deck Box and one team staged for search and/or rescue if necessary.
2. As we discovered upon our return, the UPS Battery Room will have built up levels of CO over the exposure limits while ventilation was shutdown. We should go ahead and red tape the entrances prior to leaving.
3. Empty and drain the Ice Machine in the Dirty Break Room. This will prevent the water on the deck that we found.
4. Stage a box of absorbant pads and another of white rags in Dirty Break Room. This will prevent having personnel transiting all over the place to get these materials if needed.
5. Stage a couple of cases of bottled water in the Dirty Break Room. (We may want to consider putting some "finger food" in there also - chips, canned munchies - depending on how long it would be for catering to return.)

6. Allow ample drainage time for the Seawater system prior to closing the overboard valves. This would have prevented the flood that we had just prior to our departure.
7. Drain draft gauge valve piping after isolation of the valves.
8. Change autoload tank sensor setup to "Fixed Trim and Heel" prior to closing draft gauge valves.
9. Ensure that diesel system manual valves "203 and 211 are in the OPEN position for the overflow to the Settling Tank/Sludge Tank from the Crane Pedestal Tank.
10. We are securing way too much equipment (i.e. battery chargers and power supplies), and securing it to a farther degree than necessary.

a. I have gathered input from the Maintenance Team and Marine Team folks in order to pare this list down. We are currently modifying the checklist to open the UPS Battery Disconnects and leave the chargers/inverters suppling power to the various control systems. As long as power stays up, we're in good shape. If the Emergency Generator goes down, we still have the batteries that we previously disconnected.

b. One of the reasons that I wanted Don Voltz to come out is to assist in developing/finalizing the procedure that the Electricians need for "cold starting" (i.e. putting the batteries on line without AC power). They have it pretty much done, but Don is the subject matter expert.
11. The night before we left, the Automation group was directed to assist the onshore communications folks in shifting satillites to Atlanta, GA. We had a load of problems with comms on our return that went away after we shifted the sat's back to normal. We should require some explanation from our communications folks on the beach on 1) why we shifted and 2) why it didn't work. There was a considerable amount of time and effort spent on getting the external comms figured out that shouldn't have been necessary.

Return from Abandonment

1. UPS Shutdowns: could not use batteries when no power is available. (see #10 above)
2. Control Valve for NW seawater overboard is driven by by topside air, and is fail safe open; it must be isolated by closing valve #23" A7RB370 and bypass valve #24" A8=7RB371 must be manually manipulated to achieve and increase seawater system pressure during startup.
3. One of the things that we determined was that it works for Maintenance and Marine Teams to each have their own checklist to leave the PQ but it is counter-productive to have two different checklists to reliven the PQ. I have the two different Black Start Checklists and they will be blended together into one. It is my intention to take the input that we already have and send it to the Marine Team Leaders and the Maintenance Team Leaders for "select" review to ensure that I have the chronological order of relivening correct. The steps themselves have previously been agreed upon by all concerned.
4. The finalized "Official-Destroy-all-other-versions" of the checklist needs to be printed just prior to our departure and staged with the equipment in the Dirty Break Room with additional copies being carried by the Team Leaders.
5. **ONE CHECKLIST - ONE PERSON RUNNING THE SHOW IN THE CONTROL ROOM.** Initially, we had way too many people going about their business without one SPOC checking things off the list. This cannot happen again.

Emergency Generator Shutdown Findings

1. When we returned, as everyone knows, the E-Gen was shut down. As soon as we arrived, Maintenance Team personnel went to the Generator room and found that the Air Operated-Manual Override valve that supplies diesel fuel to the engine was closed. Investigation and research showed that the valve at one time was on the Hurricane Evacuation Checklist but at some point with all of the revisions and changes it came off of there. Data history on the Cat Panel showed that the engine went down on a Intermittent Throttle Position shutdown, which is indicative of loss of fuel pressure.

a. After a bit more discussion the prevailing opinion is that the valve was originally supposed to be overridden but someone had some concerns about what would happen in the event of a fire in the Emergency Generator Room. The original intent of the valve makes sense; why else would there be electric operated ventilation dampers? The generator should be independent of everything outside of the space - not relying on air from the Emergency Air Compressor which is prone to malfunctions and intermittent shutdowns.

b. In this event, the engine would still shut down but with the valve manually overridden, if it was the source of the fuel for the fire it would continue to provide that fuel until it was expended.

c. It's a relatively short run of piping. To be honest, in my opinion, if you weigh the risk of occurrence and consequence, I'm sure that we have a much better chance of coming back to the PQ in the dark than we have of coming back to it burnt. Failing another short term solution, we need to brain storm how we get an electrically operated valve in place of the air operated valve. An electrically supplied valve could be set up to close in the event of a fire.

d. **UNLESS OTHERWISE DIRECTED, THE MODIFICATION TO THE MAINTENANCE TEAM EVACUATION CHECKLIST WILL STATE "PUT THE VALVE IN MANUAL OVERRIDE".**

2. We have traced the origin of the Emergency Generator shutdown to a loss of air pressure. The Emergency Air Compressor appears to have shut down shortly after we departed but we have been unable to determine a reason why. I, and the majority of the Maintenance Team working this investigation/discussion feel confident that it had something to do with the earlier loss of power to the PSS 1 & PSS 2 that we were dealing with prior to our evacuation. However, why the comms and control power problem would come back is unknown. The loss of the air compressor supports my thoughts on the manual override of the fuel supply valve above.

3. The diesel fuel that we discovered in the containment pan on top of the Emergency Generator building came from the overflow/flame arrestor for the diesel tank in the E-Gen Room. The loss of air pressure/compressor caused this valve to fail open instead of regulating the level of the diesel tank. The overflow line goes through one valve that is Car-Sealed Open and then down to other valves (referenced above: #203 and 211) at the Diesel Service Tank and Settling tank that were Car-Sealed Closed. Were these valves both open, the diesel would have returned to the tanks rather than fill up the containment.

a. If the engine had kept running, and we lost air pressure, the prevailing thought is that we still would have eventually overflowed, taking consumption vs flow into the equation.

b. We may want to consider having the air operated valve that provides fuel from the Pedestal Tank changed to an electric operated valve also. Having this valve "Fail-Open" on a loss of air pressure will continue to cause the problems mentioned above. It could be tied (logically speaking) into the the engine shutdown. That way, if the engine goes down, the valve will close and both prevent an overflow and preserve the diesel in the tank for later use.

4. The 18 Hour Capacity for Hurricane Mode appears to have been the alarm that was locking the engine out and what kept shutting us down. Every time that we started to restore power to VMS from UPS '003B and provide Control power, it would "see" the alarm and shut us down (this may need some more "technical explanation" by folks way smarter than me to completely explain it). We eventually had to pull the HESS Stop Relay to bypass the input to the E-Gen control panel - and it would appear that there is another relay that we should have pulled that would have prevented the last stop that we had.

a. From the investigation, it also seems that the level transmitter maxed out at just over 103%, causing an overrange condition. Basically, the transmitter didn't know where it was so it defaulted to the fail safe position: Alarm. We are looking into the calculations to raise the overrange condition to something just above the overflow line that goes back to the hull diesel tanks. That way, if the pedestal tank valve fails open, the fuel would top off the tank and go back to the tank. If it couldn't get to the tank, it would overrange and go into alarm, shutting down the engine and causing a total loss of power.

b. We are also looking into the calibration of the two transmitters on the tank. They appear to be off from one another by four percent.

SUMMARY

1. The Black Start Team (first 18) arrived at approximately 0900. The second bunch arrived about 90 minutes later due to the external comms problems that we were having.
2. We were able to get and keep the Emergency Generator online at approximately 1200.
3. We got the Emergency Air Compressor control problems figured out and the air restored to the hull at approximately 1300. This allowed the restoration of ventilation to the hull and get the black start really kicked off.
4. Main Power (Turbine Generators) was online at 1900 and we were able to get chillers and HVAC online to cool the place off and make it habitable for some really tired and sweaty personnel.
5. With some modifications to the Evacuation Checklist we should be able to pare that time down to somewhere in the neighborhood of six hours; especially if we keep the Emergency Generator running while we're gone.

While it seems that we had a bunch of problems, I would still call this a "**Win**". We had no incidents or accidents, no one got hurt, there was no damage to equipment and we were able to come to resolution to about 99% of our issues. The evacuation, however unnecessary that it may have turned out to be due to the antics of the disturbance, was a tremendous opportunity, both for training and verification of our HEP. All of the Black Start personnel should be recognized for the efforts that it took to bring Atlantis into the light.

Thanks,

Dave Snyder
Atlantis Maintenance Team Leader
Office: 337-735-2206
Cell:

Atlantis Management of Change

Date: 10/5/2007 MOC #: OP 0235

Change:	**Temporary MOC to allow Well Start-up without Operational FAM**
Originator: Group & Name	Topsides ☐ Floating System ☐ Operations X Ron Berger
Change Description:	During well commissioning, the fast-close feature of the FAMs (fast acting module) were discovered to be in-operable on the DC112, DC113 and DC114 wells. The fast-close feature of the FAM on the DC111 well operates correctly. This is a temporary MOC to allow DC113, DC112, and DC114 well start-up without an operational FAM. The PIV / CXV will be the primary flow-cut valve during this temporary MOC period (60 days beginning with MOC approval).
Reason for Change:	Diagnostics by the Subsea Project team and Operations are ongoing with the FAM's to determine the root issue. The complexity of the FAM interfaces may drive the schedule for diagnostics to continue for 2-3 more weeks before a root cause can be identified which would lead to an intervention plan to remediate the problem. Start-up of the well's will contribute to the overall diagnostics plan through providing additional data. The FAM is torque limited (i.e. it outputs less torque than the stepping actuator). Start-up of the well may reduce the torque required to close the choke by the following ways: • Hydrocarbons are more compressible and may provide less resistance to driving the choke closed versus a liquid packed system. Although DC111 works well in water, each of the other chokes (DC112, DC113 and DC114) act differently in their own way and there may be multiple factors affecting each of the chokes. • The choke is lubricated internally by an oil filled bath. Warm-up of the well may reduce the viscosity of the lubricant allowing it to move more freely than it can at 38 deg F.
Impacts: (Costs, Risks, Schedule, HSE)	Costs: None Risks: See Hazard Analysis Schedule: None HSE: None

Hazard Analysis:	The subsea choke is sequenced to shut-in the well 1st in the PSD and ESD shut-down logics. If the FAM fails to close the choke, the PIV (production riser) or CXV (test riser) on the tree would become the primary flow cut valve for the well. Neither the PIV nor the CXV are safety devices. Two well barriers exist upstream of these valves on the tree itself (PWV and PMV) . The PWV and PMV are designated as USVs (i.e. safety devices) and are tested quarterly per MMS requirements. Well flow will have been stopped as a result of PIV / CXV closure by the time the USVs close in the shutdown sequence. The SCSSV is a third barrier upstream of the USVs.

	SCSSV closure follows USV closure in the shutdown sequence. Additional wear as a result of flow cut on the PIV or CXV is only a potential operability concern. The PIV and CXV are necessary to properly isolate the Test and associated production riser. There is no leakage requirement currently prescribed for these two valves. If a situation occurs where a specific zero leakage isolation requirement is necessary between the two risers, then an isolation test will need to be performed at the time isolation is required. For day to day isolation during well test, choking ability is available both subsea and at the surface on each riser to assist in controlling pressure across the valves to assist with valve seating. Additional wear across the PIV and CXV could ultimately lead to premature leakage across these gate valves. Leakage across the valves would contribute to uncertainty in well tests if the leakage became significant enough. In addition, certain operations may require zero leakage isolation between the two risers. If zero leakage can't be obtained, then both affected risers would need to be shut-in for the operation. Repair of the PIV / CXV can only be performed through a major rig intervention (i.e. pull tubing and xtree), and a major rig intervention will always be economically traded off versus the manageability of the operability issues that the leakages are creating. The PIV and CXV are qualified using the same standards applied to the PWV and PMV for USV service. Start-up of the well does not contribute environmental risk exposure that would occur as a result of a choke intervention, if required. The Man 1 system is already filled with diesel, including each of the four Man 1 trees and jumpers. Both diesel and hydrocarbons would both need to be displaced first prior to a choke intervention occurring.
Recommendations:	Proceed with the change as recommended for the 60 day period. Re-evaluate the MOC at the end of the MOC period based on the outcome of the FAM diagnostics and intervention performance.

Is further Hazard Analysis Required? Yes ☐ No ☒

Is a Site Query Required? Yes ☐ No ☒ Attached:

Comments: Ref. attached presentation on FAM.

Routing & Approval

Title	Name	Signature	Date
Originator:	Ron Berger		10 Oct 2007
Engineering Manager	Ken DeJohn		10/10/07
OIM	Joe Powell	e-mail attached	10-10-07 10-11-07
Operations Team Lead S/S	Kevin Powell	e-mail attached	10-10-07 10-11-07
HSER			
Production Engineering	Jerry Sharp	Faxed 10/10 for J. Sharp	10-01-2007

EA Donnie Carter 10/9/07

Subsea Operation	Nita Oza	Rpt attached	10-10-07
Subsea Delivery Team	Bill Broman	[signature]	10/10/07

10-4-07

Confirmation that MOC and all findings and recommendations have been implemented:
Signature/Date:

FAM (Fast Acting Module) Overview

- The FAM is an ROV replaceable module on the Atlantis subsea choke that is used to rapidly drive the choke closed during PQ shut-downs.
  - Enables a fast shut-in of the well without flow cutting gate valves (closes choke in less than 30 seconds).
  - Still retains ability to step choke fully closed or open using the stepping actuator
  - Minimizes flowline packing from well flow (maximizes cool-down time, and minimizes associated venting during restarts)
  - Reduces the chokes hydraulic demand on the subsea control system during a shutdown (compared to stepping the choke fully closed).
- The Atlantis choke is used as the primary flow cut valve on the xtree during any ESD / PSD. Atlantis is using the choke as the sacrificial valve as it can be retrieved and replaced with an ROV.
  - The gate valves on any subsea, horizontal xtree can't be replaced / repaired without first recovering the tubing assembly and then recovering the xtree.
- The FAM / Choke are supplied by Cameron and integrated by FMC into xtree
- During subsea well commissioning, all the tree functions are tested, including FAM operation.
  - DC111 FAM is operational
  - DC112, DC113 and DC114 FAMs only operate in the open direction.

BPEP_ABB_00092833

FAM Trouble-shooting

- **Summary of Subsea Choke / FAM interfaces:**
  - HMI / Honeywell to FMC Smart Tool Control communication
  - FMC Smart Tool to SCM Control communication
  - SCM to Choke / FAM hydraulic continuity
  - FAM / Choke mechanical functionality
- **Diagnostic Status**
  - Onshore testing reviewed; all FAMs performed correctly at FAT but were never tested subsea.
  - Honeywell was eliminated as problem by attempting to operate FAM directly from Smart Tool (same FAM result).
  - Subsea Power Comms and Test Unit (SPCTU) is on the PQ. awaiting an approved procedure and personnel to by-pass Smart Tool (potentially eliminating Smart Tool as root cause if FAM result repeats)
  - Tested choke torque override requirements through the FAM: significantly higher and inconsistent torques encountered.
- **Forward Plan**
  - Prepare MOC for DC113 start-up without operable FAM
  - Continue torque override investigation with 2nd ROV test
  - Attempt to duplicate problem at FMC Hardy Rd facility
  - Continue to move forward on readiness for SPCTU test (i.e. procedure development)
  - Prepare for FAM intervention

BPEP_ABB_00092834

Risks

- Failure of the FAM to close the subsea choke will result in the PIV (production) or CXV (test) shutting in the well exposing the valve to flow cut.
  - Long Term flow cutting the PIV / CXV is not desirable as it affects isolation between the production and Test riser.
  - Well flow will still be static by the time the USV is closed (i.e. no additional risk to USV).
- If the root cause is identified to be within the SCM, choke insert or FAM, an ROV intervention could be performed to replace the affected item without recovery of the xtree
  - Choke insert replacement involves some small environmental exposure (residual oil after flushing for choke replacement).
- The Long Term contingency plan (i.e. FAM can't be fixed) would be to change shut-down logic to step the choke fully closed prior to PIV / CXV closure.
  - Additional hydraulic demand would need to be mitigated
  - Flowing packing impacts (from slower choke response) would need to be investigated

BPEP_ABB_00092835

Wilson, James

From: Boudreaux, Percy J (Udelhoven) [Percy.Boudreaux@bp.com]
Sent: Wednesday, October 10, 2007 4:00 PM
To: Wilson, James
Subject: FW: FAM MOC

From: Oza, Nita
Sent: Wednesday, October 10, 2007 2:08 PM
To: Berger, Ron K (Manatee); Boudreaux, Percy J (Udelhoven); DeJohn, Kenneth P
Subject: RE: FAM MOC

Ron, I have read through the MOC and I approve.

Nita

From: Berger, Ron K (Manatee)
Sent: Wednesday, October 10, 2007 1:47 PM
To: Boudreaux, Percy J (Udelhoven); DeJohn, Kenneth P
Cc: Broman, William H(HOU); Carter, Donnie J; Oza, Nita; Sharp, Jerry; Waterhouse, David (GVA Consultants); Powell, Kevin J

Subject: RE: FAM MOC

Folks, we need approval today, so ken and I decided to get this approved manually. Bill, Nita and kevin will need to send me digital approvals since ya'll are out of the building. Any other digitals are welcomed, but I'll try to chase you down for the signature.

From: Boudreaux, Percy J (Udelhoven)
Sent: Wednesday, October 10, 2007 1:35 PM
To: DeJohn, Kenneth P
Cc: Broman, William H(HOU); Carter, Donnie J; Oza, Nita; Berger, Ron K (Manatee); Sharp, Jerry; Waterhouse, David (GVA Consultants)

Subject: FW: FAM MOC

Ken,

MOC OP-0235 is the number assigned to this MOC. A copy of this MOC is available for review in Bizflow as well as the ibackup website.

Percy

Wilson, James

From: Boudreaux, Percy J (Udelhoven) [Percy.Boudreaux@bp.com]
Sent: Wednesday, October 10, 2007 4:00 PM
To: Wilson, James
Subject: FW: FAM MOC

From: Powell, Kevin J
Sent: Wednesday, October 10, 2007 3:22 PM
To: Powell, Joe
Cc: Boudreaux, Percy J (Udelhoven); DeJohn, Kenneth P; Berger, Ron K (Manatee)
Subject: FW: FAM MOC

Joe here is my approval for this MOC, please reply to all with yours so we can flow 113 tommorow.

See below, it states we will flow without the fast close function on the well choke-- no safety risk.

From: Berger, Ron K (Manatee)
Sent: Wednesday, October 10, 2007 10:27 AM
To: DeJohn, Kenneth P
Cc: Boudreaux, Percy J (Udelhoven); Powell, Kevin J
Subject: FAM MOC

<<MOC OP 02XX - IWSUWOFAM Rev 2.doc>> <<FAM for ALT.ppt>>

Ken, can you get this added into bizflo? Nita, jerry, bill broman, donnie and the ops flow need to be on review. We need this approved today for startup of 113 tomorrow.

Wilson, James

From: Boudreaux, Percy J (Udelhoven) [Percy.Boudreaux@bp.com]
Sent: Wednesday, October 10, 2007 5:37 PM
To: Wilson, James
Subject: FW: FAM MOC

From: Powell, Joe
Sent: Wednesday, October 10, 2007 5:33 PM
To: Berger, Ron K (Manatee); Boudreaux, Percy J (Udelhoven)
Subject: FW: FAM MOC

I approve

Joe Powell
Atlantis OIM
DWP_GOM Health Champion
PQ: 337-735-2201

From: Snow, Jeff R
Sent: Thursday, November 01, 2007 8:18 PM
To: Ragan, Frank
Cc: Little, Joshua J
Subject: opportunity

Frank,

We may have a good opportunity soon to start getting to Houston or get some training. Case in point is that due to POB restraints I'm having to go in early. Yes, taking one for the team. From what I'm hearing this could be a problem through December or later.

This may be a good chance to get some training or work out of WL. I remember a while back talking about some budget that you knew of that may fund some of this training. Any word on this?

Thanks,

Jeffrey R. Snow
BP Atlantis
Automation Specialist
337-735-2330 Office

From: Matt Dionne [mdionne@manateeusa.com]
Sent: Friday, November 09, 2007 11:26 AM
To: Ragan, Frank; Young, Brian J; Dean, Wayne (Technip)
Cc: Whitehead, David K (Technip); Oza, Nita
Subject: RE: Calculated choke position

Frank,

I am comfortable with your conclusion that the PLC software is not causing the issue. I was originally only concerned with making sure that someone had indeed laid eyes on the code to verify no interlocking was occurring.

From my conversations with Brian and my interpretations of the preliminary test results, it seems that the problem is not readily repeatable.

What I feel needs to be done is a dedicated test that attempts to emulate this problem. From there, we can compare the SmartTool command log, subsea pressure data, and LDVT reading to determine hopefully determine what the issue is.

I'm currently thinking it could be a problem with the configured pulse length for the choke. This could cause the SEM, and consequently the single board computer, to think the choke has steppe correctly when it actually has not moved.

Matt Dionne
Manatee, Inc.
E: mdionne@manateeusa.com | Cell:

-----Original Message-----
From: Ragan, Frank [mailto:Frank.Ragan@bp.com]
Sent: Friday, November 09, 2007 9:19 AM
To: Matt Dionne; Young, Brian J; Dean, Wayne (Technip)
Cc: Whitehead, David K (Technip); Oza, Nita
Subject: RE: Calculated choke position

Matt, Brian, and Wayne,

I have time in the afternoon, Monday through Wednesday, to go over the current PLC programs for Atlantis. We can explore to your satisfaction the permissives associated with sending a choke move command.

The choke PLC control code was significantly changed, by Atlantis, after a conversation I had with Matt this past spring. That's how we ending up with options for single pulse, multiple pulse, direct move to percent, and ramped control over time on the faceplate.

There is an existing interlock that prevents choke commands if a shutdown occurs AND the desired position (SP) is greater than the current calculated position. That means you can't open the choke during a shutdown. I can see how this might cause a concern during a shutdown if the LVDT is slightly higher than the calculated position (we move the LVDT position into the setpoint when a command is complete), but not for a fast close command used by itself, only during a shutdown.

Frank

-----Original Message-----
From: Matt Dionne [mailto:mdionne@manateeusa.com]
Sent: Friday, November 09, 2007 7:50 AM
To: Young, Brian J; Dean, Wayne (Technip)
Cc: Whitehead, David K (Technip); ETorina@technip.com; Oza, Nita;
bruce.maughs@fmcti.com; AWatt@technip.com; Reynolds, Brandon (Technip); Ragan, Frank
Subject: RE: Calculated choke position

Just to make sure I fully understand, during the testing, the LVDT and calculated position were deviated correct? Do you know by how much? I assume at a minimum the deviation alarm was active.

If my assumptions are correct, then it seems that the issue of the choke not moving when commanded while the LVDT and calculated position are deviated is a non-readily reproducible problem. We need to have more extended testing to attempt to replicate this issue.

Until we can replicate this issue and be monitoring all of the important data points (SmartTool command log, choke DCV pressures, supply pressure, etc.) I don't think we'll be able to pin point the cause.

Matt Dionne
Manatee, Inc.
E: mdionne@manateeusa.com | Cell:

-----Original Message-----
From: Young, Brian J [mailto:Brian.J.Young@bp.com]
Sent: Friday, November 09, 2007 7:24 AM
To: Dean, Wayne (Technip); Matt Dionne
Cc: Whitehead, David K (Technip); ETorina@technip.com; Oza, Nita;
bruce.maughs@fmcti.com; AWatt@technip.com; Reynolds, Brandon (Technip); Ragan, Frank
Subject: RE: Calculated choke position

Matt / Wayne
We did some testing the other night and were able to operate the choke without callibrating the LVDT with the calculated value. Honeywell insists that the "compare alarm" is only for display purposes and has no logic attached.

Thanks
Brian

-----Original Message-----
From: WDean@technip.com [mailto:WDean@technip.com]
Sent: Thursday, November 08, 2007 12:13 PM
To: mdionne@manateeusa.com
Cc: Whitehead, David K (Technip); ETorina@technip.com; Young, Brian J; Oza, Nita;
bruce.maughs@fmcti.com; AWatt@technip.com; Reynolds, Brandon
(Technip)
Subject: RE: Calculated choke position

Matt,

Now you have me thinking. On the new Choke "Face-Plate" (attached FAM Problem Atlantis.xls). If we set up a well, say DC-112, which is Sheet 3 of the attached Excel file. We make a new Screen Capture of the well with a "Choke Compare" Alarm active. Call up the Choke "Face-Plate" as shown on Sheet 1 of the attached Excel file and then call up the "DC-xxx Choke Fast Move Setpoint" Face-Plate as shown on Sheet 2 of the attached Excel file by clicking the "Fast Operate - CONFIGURE" Tag on the Choke "Face-Plate" as shown on Sheet 1 of the attached Excel file. Confusing enough?

Make a Screen Capture of the Choke Face-Plate (note the "NORMAL" right above the "Manual Operation, Close & Open" buttons. Now we could issue a Choke Pulse command or a Choke Step command, or a Direct Control 75 % Open command, or a Fast Open command. Make another Screen Capture of the Well Screen. Make another Screen Capture of the Choke "Face=Plate". Especially make a Screen Capture of the Choke "Face-Plate" if the NORMAL turns to TRAVEL on the Choke "Face-Plate". If this happens, we should note the Choke movement on the Well Screen (Screen Capture). If the Choke works, try another type of command.

Make a copy of the Smart Tool Command Log (TEXT File) for the time periods covering these commands and screen paints.

We should then force the LVDT and the Calculated Values to match (Calibrate) and repeat the process. Maybe we want to do the non-Alarming state first so we can insure that HMI-to-SBC-to-SEM-to-SBC-toOPC-to-HMI (PCO, PCC, FO, or FC) are pulsed as commanded by the original HMI command.

Using this process of Screen Captures, TEXT Files and whatever, we should be able to determine for sure that the Choke Compare Alarm (active) does not keep Honeywell from sending the command to the associated SBC.

Back to your specified pulse, hold, and wait times of 0.5 seconds, the Honeywell PCO, PCC, FO, or FC are set by the set-up screen (Sheet 2 of attached FAM Problems) and the FO is normally set to 120 seconds and the FC is normally set to 60 seconds. Evidently, this has nothing to do with the FMC commands from the SBC to the SEM to the Choke except initiate the pulse, hold, and wait commands to the SEM. You will remember that we did increase this FC time to 2-minutes on one Choke that was not working properly and there was no change in the operation (still failed to operate). On the PHD plots the FO can be seen at 120 seconds and the FC can be seen at 60 seconds. These are OPC values aren't they? That's what the SEM did, Right? Please explain the difference of the FMC 0.5 seconds hold and wait times and the Honeywell setup times of 60 seconds and 120 seconds. DO they send a succession of 0.5 second on/off pulses for the 60 second or the 120 second period?

The PCC Step Closed are just seen as pulses but they are large enough to register on the 5-second "snap-shots". Unfortunately we show no PCO pulses on this PHD plot. We do show the FO working fine. Can we tell from the FMC ST Command Log what commands are received from the HMI and what pulses (length of pulse) are being transmitted by the SBC and what the length of time between pulses (wait time) is from the SBC, Does the Smart Tool transmit this data or is it just contained in the Smart Tool configuration file.

I would like to think that we may solve the problem but it may require Cameron input as to what these values from the SEM to the FAM should be....
We still have DC-111 Choke operating perfectly well don't we? I think this type of operational test could clear some things up. Maybe Nita and Brian could weig-in on when we could set up such tests.

Wayne

(See attached file: FAM Problem Atlantis.xls)

(See attached file: FMC trash.xls)
(See attached file: dc113171700.jpg)

	"Matt Dionne" <mdionne@manateeusa.com>	
To		<WDean@technip.com>
	11/08/2007 10:09 AM	
cc		<ETorina@technip.com>, <brian.j.young@bp.com>, <nita.oza@bp.com>, <bruce.maughs@fmcti.com>
Subject		RE: Calculated choke position

Another question I would like to have answered from Cameron is their specified pulse, hold, and wait times. Currently all three are set to 0.5 seconds. If we are pulsing and not getting movement, then it's possible that those times will need to be altered.

I don't have a Cameron contact, so if someone could pose the question, I would be appreciative.

Matt Dionne
Manatee, Inc.
E: mdionne@manateeusa.com | Cell:

-----Original Message-----
From: WDean@technip.com [mailto:WDean@technip.com]
Sent: Thursday, November 08, 2007 9:59 AM
To: Matt Dionne
Cc: ETorina@technip.com; brian.j.young@bp.com; nita.oza@bp.com; bruce.maughs@fmcti.com; steven.rogers@honeywell.com; brreynolds@technip.com
Subject: RE: Calculated choke position

Matt,

Note your e-mail below:

Wayne

	"Matt Dionne" <mdionne@manateeusa.com>	
To		"Young, Brian J" <Brian.J.Young@bp.com>, "Dean, Wayne (Technip)" <wdean@technip.com>
	11/08/2007 08:17 AM	
cc		<bruce.maughs@fmcti.com>, <steven.rogers@honeywell.com>, "Reynolds, Brandon (Technip)"

<brreynolds@technip.com>

Subject

RE: Calculated choke position

You should be able to quickly determine if the issue is FAM related if you know a specific date and time when the issue occurred.

Look at the plot of the PCC and/or PCO function lines. If the SEM was sent a choke command either of these two function should display one or more pressure pulses. If there are no pulses, the single board computer and/or the SEM did not receive the command. This is happening, note the PHD plots I sent you yesterday and resend today. The SEM receives the command , energises the DCV and the PT for the PCO, the PCC, the FC, and I'm sure the FO shows the step from hydrastatic pressure (~3000 psia)
to the low pressure supply (~7500 psia). These pulses are seen on the attached PHD Plot.(See attached file: 17 -dc113 PHD white 0906 16-47 to 17_41 171121.jpg)

I don't know if this issue is readily repeatable, but if so, we can set up a test were we manually adjust the calculated position to be different from the choke (through SmartTool) and issue choke commands from the Honeywell system while monitoring the command log. If the issue is readily repeatable, we should be able to quickly determine which system is having issues. I believe we should set this and see if the compare error is too large, the pulse command is NOT sent from Honeywell (HMI) to the SBC so therefore is NOT sent to the associated SEM. Maybe on these plots there was not a position error compare Alarm at the time these pulses are being sent from the SEM to the SBC OPC data to the HMI (which we are seeing on the PHD Plot)

On the note of the "dead band" of the calculated position, each step should theoretically increase the calculated position by 0.55%, which should cause the calculated position to update.That corresponds to my figures I sent to Brian (and you) yesterday PM. The error is 0.28% that Honeywell activates the Compare Alarm. So if we command a step 0.55% we get a Compare Alarm if the LVDT reads > than .83 % or < than 0.27%, RIGHT ?

Once again, we need to verify that the single pulse commands are actually reaching the single board computers before we go forward.

I assume the SBC receiving the commands from the Honeywell HMI so that the SBC can send the command to the SEM and then the SEM will send the commanded pulse to the end-function as well as back to the SBC which then sends the received pulse to the OPC. This OPC pulse is the one the PHD history is plotting on the plot attached. We Need to simultaneously plot the Compare Alarm.
Right ?

Wayne Dean

Matt Dionne
Manatee, Inc.
E: mdionne@manateeusa.com | Cell:

-----Original Message-----
From: Young, Brian J [mailto:Brian.J.Young@bp.com]
Sent: Wednesday, November 07, 2007 4:09 PM
To: Dean, Wayne (Technip); Matt Dionne
Cc: bruce.maughs@fmcti.com; steven.rogers@honeywell.com; Reynolds, Brandon (Technip)
Subject: RE: Calculated choke position

All,
I've confirmed with Honeywell. They only display the choke positions.
There is no logic and no interlocks. They just take the info from FMC and display it.
I'm wondering if the failure to move when a command is given is FAM related.

Another question. Do you discriminate against which choke command is given? Sometimes when a single pulse is used the calculated value does not change. Is that because it is "close" enough to the previous value and still within range? If so, what is the deadban range?

Thanks,
Brian

-----Original Message-----
From: WDean@technip.com [mailto:WDean@technip.com]
Sent: Wednesday, November 07, 2007 12:08 PM
To: mdionne@manateeusa.com
Cc: Young, Brian J; bruce.maughs@fmcti.com; steven.rogers@honeywell.com; Reynolds, Brandon (Technip)
Subject: RE: Calculated choke position

Matt

Excellent description. Note some of the PHD plots we performed. Note on 18-dc113 the lvdt and the calculated tracked very well especially after they were recalibrated and the Fast Choke command was issued. All of these choke signals are the OPC data from the SEM/SBC that are then recorded in the PHD historical data. It looks to me that the signals are transmitted by the SBCs as result of HMI commands and the calculated and the LVDTs compare but the FAM still does not work.

This gets us back to the complaint I've had for a while, that we do not have a running (managable) record of the Smart Tool Command Log. I know you have given Bruce the instructions on how to make a TEXT file (open with WORDPAD) of the ST command log, but I have yet-to-date seen one. I believe Dale has come up with a logging system for the CWTU. When talking to him he said we should have a logging system of the ST with the Honeywell system, but not so in the form of a "SEM A (or B) Step Open to ----- %".
This is not recorded by Honeywell except in the OPC data. The ST screen showing the Command Log is in the Control Room but I don't know how to get a Screen Capture of the Screen. There should be a way. Until then we need a Text File of the Command Log (can this text file just be several lines or do you have to select the whole log?)

I will see if I can scrape up some more data. I could probably go to the lab at Westlake, but Brian, you might start looking through the data that we have. I'll call Brian later on this afternoon.

Wayne

.(See attached file: 3 - 091907 _11_00_32 DC-113 Fast Close Fail.xls)
18:16 on 9/18/07, choke with cursor values @ 18:16

(See attached file: 18 -dc113 PHD white 0906 16-47 to 17_41 171700.jpg)
16:47 on 9/6/07, choke activity

(See attached file: 10 -- dc113 PHD white 0906 1050 to 1451 1245-1330.jpg)
13:38 on 9/6/7, choke activity

(See attached file: 33 - DC-113 Trends 090307 14_15_09 090107 sheet 7.xls)
9/1/07 trends choke worked at first and then hung up.

	"Matt Dionne" <mdionne@manateeusa.com>	
To		"Young, Brian J" <Brian.J.Young@bp.com>, <Bruce.Maughs@fmcti.com>, "Dean, Wayne (Technip)" <wdean@technip.com>
	11/07/2007 09:40 AM	
cc		

Subject

RE: Calculated choke position

The single board computer maintains an internal step count for each choke object.

The choke object has a calibrate operation in which the operator must give a percentage value to calibrate the calculated position to. This percent is converted into steps by multiplying the total number of choke steps by the calibration percentage and rounding to the nearest step.

This step number is then converted back to a percentage by dividing the number of steps by the total step number and converting to a percentage (i.e. multiply by 100) and shown as the calculated position.

When a choke move command is given, the single board computer converts the choke move command into a number of steps to move open or move closed. The single board computer then sends the command subsea which includes the number of steps to move, the direction to move, and the pulse, hold, and wait time for each step. The single board computer then waits for the "Choke is moving" bit to be set within the SEM status buffer, which indicates that the SEM has begun to step the choke. At this point the single board computer changes the choke status to "moving" and updates the calculated position (related to the internal step count) based upon the known pulse, hold, and wait times. When the "Choke is moving bit" is set back to 0, the single board computer changes the choke status to "normal".

When a fast movement command is issued, the single board computer opens either the fast open or fast closed DCV for the amount of time in second giving with the fast movement command. If this time given is longer than the configured fast movement time (in this case it's 50 seconds), at the end of the movement the single board computer will update the choke position.

The choke object in the single board computer is not related in any way to the LVDT.

I maintain that the Honeywell software is disallowing the choke command when a large deviation between the LVDT and the calculated position exists.
It is known that the choke code inside the PLC was not written by the Atlantis team. I suggest that a programmer go over the code to determine if the calculated position is ever compared to the LVDT value.

To verify this, when the measured and calculated positions are deviated, issue a choke movement command and monitor the command log from SmartTool.

If not command is seen, then in all likelihood the Honeywell system is not issuing the command due to an internal (i.e. not visible) differential check between the measured and calculated position.

Matt Dionne
Manatee, Inc.
Email: mdionne@manateeusa.com | Cell:

From: Young, Brian J [mailto:Brian.J.Young@bp.com]
Sent: Wednesday, November 07, 2007 9:11 AM
To: Matt Dionne; Bruce.Maughs@fmcti.com; Dean, Wayne (Technip)
Subject: Calculated choke position

Bruce, Matt, and Wayne,
Can you guys help me understand the calculated choke position? From our experience, we have had situations where the choke will not move when commanded. Then after callibrating the calculated value with the LVDT value, we are able to operate the choke. I had thought that it did not matter if the calculated and LVDT positions were different, but that does not always seem to be the case. How exactly do you calculate the calculated value?

Thanks,
Brian

Brian J. Young
Subsea Engineer
Atlantis Subsea Ops
BP - GoM
Direct: (281) 366-3078
Cell:
Fax: (281) 366-1600
Brian.J.Young@bp.com

From: Ragan, Frank
Sent: Tuesday, November 13, 2007 3:46 PM
To: Rogers, Steven (TX57)
Subject: Development System

Steve,

I have been asked what it would take to build a development system large enough to simulate the FMC - Honeywell controls for Subsea. There are some individuals pushing the idea that it may still be a software issue with the choke.

I think we would need at least 2 servers (like a couple of recently spec'ed 2900's, one as the Experion server, the other as the OPC server), a couple of CLX5500's (with chassis, power supply, and network cards) and a Prosoft card, and some network hardware. If we put the Ether net card In the I/O chassis, it would "map" to SCU-C1 the same way it does now.

At first, I was opposed to the idea, but now I'm thinking it might be nice to have some hardware in Houston to work with.

Do you have anything from your Cameron work, or maybe from Thunder Horse, that we could put into a development system spec? We wouldn't be getting a cabinet from Test, but might want a simple rack of our own. The rack might even come after the subsea effort.

The subsea guys are looking for a pretty quick answer (how much and how quick), so don't get too distracted by the details.

Frank

From: Ragan, Frank
Sent: Tuesday, November 13, 2007 3:46 PM
To: Rogers, Steven (TX57)
Subject: Development System

Steve,

I have been asked what it would take to build a development system large enough to simulate the FMC - Honeywell controls for Subsea. There are some individuals pushing the idea that it may still be a software issue with the choke.

I think we would need at least 2 servers (like a couple of recently spec'ed 2900's, one as the Experion server, the other as the OPC server), a couple of CLX5500's (with chassis, power supply, and network cards) and a Prosoft card, and some network hardware. If we put the Ether net card In the I/O chassis, it would "map" to SCU-C1 the same way it does now.

At first, I was opposed to the idea, but now I'm thinking it might be nice to have some hardware in Houston to work with.

Do you have anything from your Cameron work, or maybe from Thunder Horse, that we could put into a development system spec? We wouldn't be getting a cabinet from Test, but might want a simple rack of our own. The rack might even come after the subsea effort.

The subsea guys are looking for a pretty quick answer (how much and how quick), so don't get too distracted by the details.

Frank

From: Berger, Ron K (Manatee)
Sent: Tuesday, November 13, 2007 4:53 PM
To: Weber, Rick G
Cc: Ragan, Frank; Whitehead, David K (Technip); Broman, William H(HOU); Ross Hendricks (Ross.Hendricks@fmcti.com)
Subject: Honeywell System for Fam Testing

Rick,

I checked into the possibility of what it would take to get a Honeywell system running with the SPCU test kit at FMC. The short answer is that nothing is available on the ground to help testing in the very near term. The system that was used to FAT the control system years ago was the actual production cabinets that are now offshore. Frank is getting a quote now for price / schedule to build a test system if you want to head that way. The quote should be here by the end of the week but a rough estimate would be 60-75k to pull the parts together and probably 2-3 weeks delivey. This money would be well spent as we could use it later for spares if needed or DC3 testing for their system changes.

We would also need to come to agreement on who funds it. It is difficult for us to sell the purchase because from all indications the software seems to be working. However, Bill may be able raise this within the ALT and get Operations to pay for it. The quotation will assume the following:

- Two servers and same PLCs offshore would be included in the test kit.
- Parts would be laid out on a table or plywood mounted. They would not be cabinet mounted.
- A honeywell development license would be used for the software and could only be used for the testing.

I'll provide more details when the quote arrives. Let me know how you want to go forward.

ron

From: Little, Joshua J
Sent: Wednesday, November 14, 2007 3:03 PM
To: Ragan, Frank
Subject: RE: Control of Work - Automation

I added a "Mitigation" column to the list to have reasons why we don't permit (couldn't think of a reason for all). Also added in "routine work" as non-permitted. What do you think? Can we do better?

Automation Tasks (JJL).doc

Josh

From: Ragan, Frank
Sent: Wednesday, November 14, 2007 10:52 AM
To: Little, Joshua J
Subject: FW: Control of Work - Automation

This was the last one...

From: Ragan, Frank
Sent: Wednesday, August 29, 2007 6:53 AM
To: Harrison, Rickey
Cc: Powell, Joe; ATLANTIS MAINTENANCE TEAM LEADER; ATLANTIS MAINTENANCE AUTOMATION 1; Taylor, Alastair; Oneto, Rick; Lowe, Jon D; DeJohn, Kenneth P; Babooram, Seepersad
Subject: Control of Work - Automation

Rickey,

I have updated the table we discussed yesterday to includes our comments. To summarize, a permit is expected when there is a potential for an interruption in production/shutdown or when a piece of maintenance can be scheduled. A permit is not expected for work that does not have a potential for shutdown or interruption, or when the action is taken as a result of a failure (and the interruption/shutdown has already occurred).

<< File: Automation Tasks.doc >>

The plan forward for the remote access practice is:

1) Incorporate the comments I have received. I will reference a requirement to follow the facility permit to work policy, but not include this table. The table is more appropriate for all Automation work, not just the remote work.

2) Add a reference to the list of remote access users. This table was not circulated previously, but is an "as-built" of what has been done over the last couple of years. This is the document I expect to have multiple MoCs to add and delete people from the project.

3) Write an MoC to implement the practice document and the list as approved for use. Once these are in the official project document set, it will be easier to define a change and create an MoC to document the decision. The access list is in a continuous state of flux, and I can predict that we will have several MoCs this year to add and delete people.

Thanks for your help,

Frank

Task	Risk	Mitigation	Probability	MOC Req'd	
Modify Safety PLC logic	Human error leading to either unintended shutdown or inhibiting an intended shutdown Potential for PLC fault leading to shutdown and General Alarm	Communication with CCR operators and between onshore and offshore automation persons	Depends on person Rare	Yes for new changes in functionality No for corrective work	YES for new or MoC'd applications NO for routine operation and corrections
Download Safety PLC program	**A PLC download requires that connected processes be shutdown, alarms may sound as program initializes** ***** May be required after an extended power outage such as hurricane re-livening**		**Rare**	NO (architecture revisions would have an MoC for the hardware addition)	**YES for scheduled work,** **NO for failure recovery**
Upload Safety PLC program	No known hazards		n/a	No	**NO**
Monitor values / logic in an online Safety PLC	Human error leading to changes in variable values (requires a "two-click" mistake)	No changes to be made	Rare	No	**NO**
Modify Control CM	Human error leading to unintended control action (opening or closing a valve, starting or stopping a pump, etc.) Potential for Controller Fault leading to a shutdown	Communication with CCR operators and between onshore and offshore automation persons	Depends on person Rare	YES for functional changes, NO for error resolution and non-control issues (description and associated	YES for new or MoC'd applications NO for routine operation and

Formatted Table

Deleted: YES

CONFIDENTIAL

Case 4:09-cv-01193 Document 343-7 Filed in TXSD on 04/04/12 Page 70 of 75

Task	Risk	Mitigation	Probability	MOC Req'd	
				page)	
Download Control configuration	**A controller download requires that connected processes be shutdown *** May be required after an extended power outage such as hurricane re-livening**		**Rare**	**No**	**YES for scheduled work, NO for failure recovery**
Upload Control Configuration	No known hazards		n/a	No	**NO**
Modify setpoints or trip points from the HMI *** required for annual MMS range chart	Unintended shutdown or inhibited shutdown due to incorrect value		Every Time	Yes or no depending on the instance.	**NO**
Modify SCADA Point Configuration (Quickbuilder – including the reassignment from on e controller to another to optimize scan packets)	Temporary loss of view while point is downloaded Human error directing control to the wrong PLC address Human error directing to wrong displays (slowing operator response)		Every Time Low Low	**NO**	**NO**
Modify SCADA Channel or Controller Configuration – creation, deletion, or modifying the properties of a channel or controller (not reallocating points from one controller to another)	**Loss of view during the modification**		**Every Time**	**YES**	**YES**

Formatted Table

CONFIDENTIAL

Case 4:09-cv-01193 Document 343-7 Filed in TXSD on 04/04/12 Page 71 of 75

Task	Risk	Mitigation	Probability	MOC Req'd	Formatted Table
Create new SCADA Point	No known hazards		n/a	NO	NO
OPC Channel Fail-over *** required periodically to distribute network loading and to maintain OPC servers	Temporary loss of view during group rebuilding Errors in group rebuilding leading to an extended loss of view	Control system still functional with safety systems in place	Every Time Rare for VMS/HESS and Topsides – Low for Packaged Equipment	No	Deleted: YES for scheduled work,¶ NO for failure recovery
Replace I/O Module or E3 relay	Unintended shutdown and alarm, electrical hazards,			No	YES
Flash firmware of I/O Module or E3 relay	Loss of control, shutdown, alarm		Every Time	NO	Yes
Download Configuration to E3 relay	Loss of control, shutdown, alarm		Every Time	No	Yes
Modify or Schedule ControlNet network	Loss of control, shutdown, alarm		Every Time	No	Yes
Re-terminate/repair ControlNet cables	Un-intended shutdown, electrical hazards (other sources in enclosure)		Every Time	No	Yes
Experion Server Fail-over	No known hazards – redundancy is lost for a period of time until the new backup is synchronized to the primary	Verifing health and synchronization of the back-up server.	Every time	No	Deleted: YES for scheduled work,¶ NO for failure recovery
Shutdown backup Experion Server *** required for a full backup of the running configuration	Redundancy is lost – could lead to a loss of view if the primary server fails	Verifing health and synchronization of the primary server.	Every Time	No	Deleted: YES
Shutdown, maintenance,	Limited view during offline		Every Time	No	YES for scheduled

CONFIDENTIAL

Case 4:09-cv-01193 Document 343-7 Filed in TXSD on 04/04/12 Page 72 of 75

Task	Risk	Mitigation	Probability	MOC Req'd	Formatted Table
and restart of console computer	period (reduction in the number of HMI screens available to operate)				work, NO for failure recovery
Graphics modifications	No known hazards	No known hazards	n/a	NO * significant changes to the method of operation interaction may require an MoC and Procedure updates	NO
New graphics creation	No known hazards	No known hazards	n/a	NO	NO
Asset alarm enable/disable	Alarm inhibition resulting in failure to notify operator, potentially leading to shutdown	Already in place DSD procedure, and CCR operator communications	Low	NO	NO * manual alarm inhibits need to be entered in the DSD log
User permissions/security modifications	Improper user access (too much or not enough access)	MoC, Team Lead approval	Low	YES	NO

CONFIDENTIAL

Case 4:09-cv-01193 Document 343-7 Filed in TXSD on 04/04/12 Page 73 of 75

From: Ragan, Frank
Sent: Thursday, November 15, 2007 7:02 AM
To: Berger, Ron K (Manatee)
Subject: RE: Honeywell System for Fam Testing

Ron,

The estimate came to $47K. We're looking into delivery, but nothing looks like it should be too hard to find in a couple of weeks. Usually it's the procurement cycle that really slows us down.

Frank

From: Berger, Ron K (Manatee)
Sent: Tuesday, November 13, 2007 4:53 PM
To: Weber, Rick G
Cc: Ragan, Frank; Whitehead, David K (Technip); Broman, William H(HOU); Ross Hendricks (Ross.Hendricks@fmcti.com)
Subject: Honeywell System for Fam Testing

Rick,

I checked into the possibility of what it would take to get a Honeywell system running with the SPCU test kit at FMC. The short answer is that nothing is available on the ground to help testing in the very near term. The system that was used to FAT the control system years ago was the actual production cabinets that are now offshore. Frank is getting a quote now for price / schedule to build a test system if you want to head that way. The quote should be here by the end of the week but a rough estimate would be 60-75k to pull the parts together and probably 2-3 weeks delivey. This money would be well spent as we could use it later for spares if needed or DC3 testing for their system changes.

We would also need to come to agreement on who funds it. It is difficult for us to sell the purchase because from all indications the software seems to be working. However, Bill may be able raise this within the ALT and get Operations to pay for it. The quotation will assume the following:

- Two servers and same PLCs offshore would be included in the test kit.
- Parts would be laid out on a table or plywood mounted. They would not be cabinet mounted.
- A honeywell development license would be used for the software and could only be used for the testing.

I'll provide more details when the quote arrives. Let me know how you want to go forward.

ron

BP Atlantis Project
OPERATIONS / HUC MOC's

Subject: MOC Meeting Minutes
Meeting Date: November 29, 2007 Video Conference
Prepared By: J. Doucet
Issue Date: November 30, 2007
Attendees: P. Boudreaux, K. DeJohn, D. Waterhouse, L. Osborn, F. Ragan, W. Gum, J. Doucet, K. LaRue, D. Herrmann, K. Powell, J. Snook, M. Butler, P. Liagre, J. Powell, L. Mayse

Item	Discussion	Action By/ Required Date
	OPS MOC'S	
	MOC 135 Install Temporary Connection for Propane to keep Flare Pilot Lit. • (11/29/07) MOC extended for an additional 60 days.	N/A
	MOC 246 Temporary use of N2 for export compressors seal gas for commissioning • (11/01/07) Weight review pending. • Move priority to 2A • (11/8/07): approved - Re-instatement before close out. • (11/15/07) WIP Priority 2C	L. Gipson/D. Herrmann 12/06/07
	MOC 0243 – Alternate High Pressure N2 Tie-in Point (MOC 160R1) • (11/15/04) WIP • Close out after Hydrate Remediation. Priority 2C	OPS 12/06/07
	MOC 247 Temporary logic change to Gas Pipeline Logic for Flowback • (11/01/07) Move priority to 2B. • (11/8/07): approved - Re-instatement before close out. • (11/15/07) WIP Priority 2C	F. Ragan 12/06/07
	MOC 249 Lack of positive isolation to allow replacement of SDV-41906 • (11/8/07): K. LaRue / K. DeJohn to review before procedure is written for use of Smart Plug. • Carter will not approve until technical issues addressed. • (11/15/07): Approval pending outcome of MGTS remediation. • (11/29/07) Canceled just recently.	N/A
	MOC 250 Replace damaged SDV-41906 bypass valve (weld end valve) • (11/8/07) HSE Approved. Awaiting OIM approval • (11/15/07) MOC fully approved. PSSR Status • (11/29/07) Complete. Valve has been replaced. Testing remaining. • Need to do a PSSR. Priority 2C	L. Gipson /D. Herrmann 12/06/07
	MOC 264 – Isolation for Gas P/L Valve repair Low Pressure Case • (11/15/07) MOC Approved. PSSR Status • (11/29/07) Temp Assurance Stage. Priority 2C	OPS Engrs. 12/06/07
	MOC 0203 – Atlantis infield production flex joint temp and pressure shutdowns. • (9/13/07) Waiting for definitive answer from Oil States. • OIM and Team Lead Approvals pending. • (9/27/07) MOC fully approved • 1st oil portion complete • (11/01/07) F. Ragan working drawing revisions. • (11/29/07) Closed	N/A

Exhibit 107
Part 2

	MOC 207 Topsides Circulation Mode • (11/01/07) F. Ragan working drawing revisions. • (11/29/07) Closed.	N/A
	MOC 235 Temp MOC to allow well start-up without Operational FAM. • (10/11/07)60 Temp MOC. • K. DeJohn to check with Ron Berger for Automation changes and who will do work. • MOC Approved. • (11/15/07) No Change Priority 3	K . DeJohn 12/06/07
	MOC 199 PQ Cranes PAGA Sound Level reductions. • (10/11/07)MOC in PQ Engineers area in Bizflow. • Need B. to send to Reviewers in Bizflow. • (10/18/07) In verification stage in Bizflow. • (10/25/07) B. Roades reviewing. • (11/15/07) Verify Coordinator – B. Roades. Priority 3	B. Roades 12/06/07
	MOC 220 Installation of Pneumatic driven centrifuge for shake-outs • (10/11/07)D. Waterhouse needs more detail from B. Roades. • K. DeJohn to reject and send back to Barth for more details. • (10/25/07) B. Roades reviewing • (11/8/07) All reviews complete in re-verify status. OIM approval pending • (11/15/07) MOC Approved. Pre Startup Status. Priority 3	PQ Ops Engrs. 12/06/07
	MOC 221 Relocate instrument air supply to N2 generator • (10/18/07) Need Ops to submit for review. • No System shutdowns required. • (11/8/07): Review status. S. Iqbal review pending. • (11/15/07) MOC Approved. Pre Startup Status. • (11/29/07) PSSR Stage. Priority 3	OPS Engrs. 12/06/07
	MOC 244 Dry Oil Tank Level Control Valves • (11/01/07) Trim to be delivered 12/01. • DeJohn to double check on noise level. • DeJohn & C. Ball still needs to approve. • Opportunity to shut down • (11/8/07): OIM approval received. • PSSR status, OPS supervisor action. • (11/15/07) No Change Priority 3	L. Gipson /D. Herrmann 12/06/07
	MOC 240 Add new temperature measurement on oil outlet line • (11/8/07): Re-verify stage. • Weight form is now attached. • Waiting on Logic dwg, • (11/15/07) Second review cycle, PQ HSE, OIM, Weight Reviews pending • (11/29/07) K. DeJohn to cancel. This has been superceeded by MOC 0267.	N/A
	MOC 252 Pump discharge check valve issues (RFA-0030) • (11/8/07):OPS Supervisor / Design Safety reviews needed. • Add post start up comments to MOC. • Return Valves to Houston • Eng to assess valves. • (11/15/07) D. Carter to review.	K. DeJohn 12/06/07

	• (11/29/07) Got rejected & D. Carter did not approve. • K. DeJohn action item. Priority 3	
	MOC 254 Un-SAC Oil Pipeline PSH (PXT-41701) • (11/8/07): Weight review complete • Waiting on L. Gipson review. • (11/15/07) MOC Approved. Pre Start up Status. Priority 3	F. Ragan 12/06/07
	MOC 256 Change out Check Valve Vacuum Breakers in seawater systems. • 11/8/07: All reviews complete except K. DeJohn. • (11/15/07) Marine review added and pending • (11/29/07) No Change. Priority 3	S. Iqbal 12/06/07
	MOC 258 - Subsea Chemical Day Tank Vent Modifications • (11/8/07) Review status, Tech., OIM Supv, and Design Safety review pending • (11/15/07) Need details of regulators. • Tech review pending. • (11/29/07) Post start up stage – verify instrument data sheets updated in Intools. Priority 3	K. LaRue 12/06/07
	MOC 259 10" 15000# ANSI Oil Valve Actuator Modifications. • (11/15/07) Part of work on schedule. • J. Snook Verifying Coordinator • K. DeJohn get with M. Ezekiel to review and send to OIM for approval. • (11/29/07) K. LaRue needs e-mail approval from M. Ezekiel & then OPS can do approval process for him. Priority 3	K DeJohn / M. Ezekiel 12/06/07
	MOC 261 Air Vents Main Deck. • (11/15/07) Review status, Marine review pending. Priority 3	S. Iqbal 12/06/07
	MOC 257 Documentation required for IM element 5 • (11/8/07): Carter to review before Waterhouse signs off. • F. Ragan to review. • (11/15/07): Verifying Coordinator F. Ragan. • Re-submitting for reviews and approvals, K. DeJohn Review pending • (11/29/07) Should be back into review stage next week. Priority 4	K. DeJohn / F. Ragan 12/06/07
	MOC 262 Crane Load Testing Modifications • (11/15/07): D. Waterhouse to review Testing Procedures. • Possible Regulatory issues on clamp. • (11/29/07) Pre start-up stage. Priority 4	OPS Engrs. 12/06/07
	MOC 267 Move TE/TT – 41701 to connection in common line • (11/29/07) Waterhouse requested that someone update the procedure – suggested S. Bish • Waterhouse to send comments to F. Ragan & then F. Ragan to incorporate in MOC. Priority 2A	F. Ragan/D. Waterhouse/S. Bish 12/06/07
	HUC MOC'S	

	SQ/0963 Modifications to booster/export compressor controls. • (10/11/07) Need ETA for Dresser-Rand • (10/18/07) Waiting on Confirmation of VCO • Vendor Due out 10/27 • Gas Commissioning on Compression to start on 10/30/07 • (11/01/07) WIP – Pulled D. Frazier off of compressors to work on turbine generators for awhile. • Waiting on testing. • (11/8/07) #1 Compressor completed 11/6/07 • (11/15/07) 50% Complete Priority 2A	F. Ragan 12/06/07
	SQ 0962 – Auto Crank modifications to turbine control program • (10/25/07)D. Frasier to address when he is on PQ, Dresser Rand VCO 10/27. • (11/01/07) WIP – Pulled D. Frazier off of compressors to work on turbine generators for awhile. • Waiting on testing. • (11/5/07) WIP • 11/15/07) WIP. • Run PSSR before running Generator. • PSSR to be done by Maintenance Team Lead Priority 2D	C. Nagengast 12/06/07
	29 November meeting discussions on open MOC's. Please provide updates for Priorities 2, 3 & 4 as they become available.	ALL 12/06/07
	NEXT MEETING SCHEDULED FOR 06 December 2007	

From: Little, Joshua J
Sent: Friday, December 07, 2007 4:21 PM
To: Ragan, Frank
Subject: RE: Oil Shutdown 2/06/07

Will do. I've let Cliff know what's going on and they'll bypass the NOT's for now.

Josh

From: Ragan, Frank
Sent: Friday, December 07, 2007 4:08 PM
To: Little, Joshua J
Subject: RE: Oil Shutdown 2/06/07

OK then, I will raise an MoC to change the logic to add new rungs for the ZSO_NOT condition. Until then, we need to have the bypass on when doing an SDV test.

Frank

From: Little, Joshua J
Sent: Friday, December 07, 2007 4:04 PM
To: Ragan, Frank
Subject: RE: Oil Shutdown 2/06/07

There are interlocks, but they go off of the actual ZSC.

From: Ragan, Frank
Sent: Friday, December 07, 2007 3:42 PM
To: Little, Joshua J
Subject: RE: Oil Shutdown 2/06/07

There should also be some interlocks around valves SDV05x02 & SDV05x09 both not open.

From: Little, Joshua J
Sent: Friday, December 07, 2007 3:39 PM
To: Ragan, Frank
Subject: RE: Oil Shutdown 2/06/07

11953, 16401, 17401, 41111, 41211, 41311, 41411 is it. That's assuming there are no naming abnormalities out there. I did a search for att_sdv*not and that's all I came up with.

Josh

From: Ragan, Frank
Sent: Friday, December 07, 2007 3:28 PM
To: Little, Joshua J
Subject: RE: Oil Shutdown 2/06/07

Josh,

We could add an additional point, specifically for the ZSO_NOT, that would leave the 95% alone. Then the graphics would show the "travel" during a test, and the new ZSO_NOT wouldn't trip.

What are the other six valves?

Frank

From: Little, Joshua J
Sent: Friday, December 07, 2007 3:21 PM
To: Ragan, Frank
Cc: Sun, Henry H (HONEYWELL IND. AUTO. and CNTR); 'Rogers, Steven (TX57)'
Subject: RE: Oil Shutdown 2/06/07

Frank,

That's what Cliff was suggesting also. The only thing I see is the event report would show the valve fully open before it really was; as the NOT is based off the same point as the open. I like the idea myself and if you want we can submit a permit to change the 7 SDV's over the weekend.

Josh

From: Ragan, Frank
Sent: Friday, December 07, 2007 3:08 PM
To: Little, Joshua J
Cc: Sun, Henry H (HONEYWELL IND. AUTO. and CNTR); 'Rogers, Steven (TX57)'
Subject: RE: Oil Shutdown 2/06/07

Josh,

I was curious about setpoints. The partial stroke testing should be set to 85%, and I wouldn't be surprised if the ZSO_NOT was set at <95%. If that's the case, I think the best solution is to revise the setpoints. We should partial stroke to 85%, but not trip the pumps until the valve is <75%.

Can you look into the setpoints?

Frank

From: Little, Joshua J
Sent: Friday, December 07, 2007 3:02 PM
To: Ragan, Frank
Cc: Sun, Henry H (HONEYWELL IND. AUTO. and CNTR); 'Rogers, Steven (TX57)'
Subject: Oil Shutdown 2/06/07

Frank,

The operators were partial stroking the SDV's yesterday for MMS testing and tripped the oil systems when they got to SDV-11953. On page 433 there is a NOT_OPEN for that valve that trips GRP_1195_02 causing all the pipeline pumps to shut-in. The NOT should have been bypassed, but it wasn't. Henry and I were thinking about adding an Interlock symbol near the valves on the process pages for the ones with NOT's. Other than HVAC ZSO_NOT's there aren't many on topsides. The associated displays aren't 100% consistent on if they go to the logic page for the NOT or the SDV output and the valves should all probably go to the outputs. Henry wrote Bug 3898 for this. What do you think?

Thanks,

Joshua Little
Automation Specialist
BP Atlantis Operations
Office: (337) 735-2230

joshua.little@bp.com

bp

Management of Change

MOC #: MOC-GC787-07-0290
Date Initiated: 12/9/2007
Initiated By: Ragan, Frank

MOC Requirements/Responsibilities:

Proceed with MOC Process ? (•) Yes ( ) No ( ) Request Clarification ?

PSSR Responsibility: Ragan, Frank ... ?

Startup to be Authorized by: Atlantis OIM ... ?

Work Package:

Eng. Work Package Target Date:		Work Order # (If required):	
Onshore contact:		Cost Code(AFE)/WBS Element:	
Offshore contact:		Vendor/Supplier Info:	
Pay Key:		Purchase Order #:	

Hazard Assessment:

Hazard Assessment Type: What If ?

☐ Hazard Assessment Attached

Hazard Assessment Results:

Hazard Assessment results should be either attached or entered below

This change has two elements:

1) The original design intent was to monitor for low pressure at the turbine. Both the PCS and the D-R supplied controls satisfy this need, but the use of two sets of interlocks creates a "Catch-22" situation at fuel switch over. This leads to operator intervention, applying bypasses, and a less safe condition. The D-R supplied low pressure interlock will fill the requirement by itself, and is tighly integrated in the switch over sequence. Deleting the PCS interlock will improve the safe operation of the system.

2) Review of the system revealed that there are three conditions that would shutdown the supply of fuel gas, but would not initiate a switch to diesel. In those cases, the switch would have been a cascade based on pressure drop. Since the original intent was to take preemtive action, and switch fuel sources on the initial trip event, switching from PSD to a FG Scrubber Upset (which includes PSD) is a more conservative approach. This will provide a more reliable main power supply to the platform.

bp

Management of Change

= Required Field

MOC #: MOC-GC787-07-0290
Date Initiated: 12/9/2007
Initiated By: Ragan, Frank

MOC Type:	Technical ?	MOC Status:	unapp
...ity:	Atlantis ?	Expected Startup Date:	12/22/2007 ... ?
...stem:	Control System/Automatik	RFA #:	?
Verifier/Coordinator:	Ragan, Frank ... ?	Priority:	B (Med) ?
...down Required:	None	Priority Reason:	Efficiency ?
MOC Duration:	⦿Permanent ○Temporary ?	Emergency Change:	○Yes ⦿No ?

Title: ?

Change logic for turbine fuel swap

Scope: ?

Delete PSLL-50x91 on the filter separator from the turbine swap to diesel interlock. Also, change the PSD input to the interlock to the ATT_GRP_3510_01 signal to include PSHH/PSLL-35101 and LSHH-35101.

Justification: ?

Testing of the interlocks showed that that the D_R package already has an interlock to protect against the filter separator pressure, and that both interlocks interfer with each other during the swap-over sequence. Only one or the other needs to be in place.

The change from PSD to ATT_GRP_3510_01 provides the same protection, but adds the level and pressure transmitters on the scrubber that could shut-in the fuel supply. This will be a preemptive trip, swapping to diesel before the pressure drop is detected when the scrubber is blocked in.

Atlantis Lightship Alteration Weight Form

bp

This form must be filled out as part of all Management of Change, Site Query and Site Instruction processes. Please use the decision chart below or the definition of lightship in the Atlantis Operating Manual (section 2.7.3) to determine if the project will affect Atlantis lightship weight. In any case, the form must be approved by the Atlantis Marine Team Leader before work begins.

Final lightship alteration information must be provided in order to close out the project. Please review the work that was done and provide updated information corresponding to the actual material used and final locations.

Management of Change, Site Query or Site Instruction number: MOC-GC787-07-0290

Originator: Frank Ragan **email:** frank.ragan@bp.com

Brief description of the project: Software Change

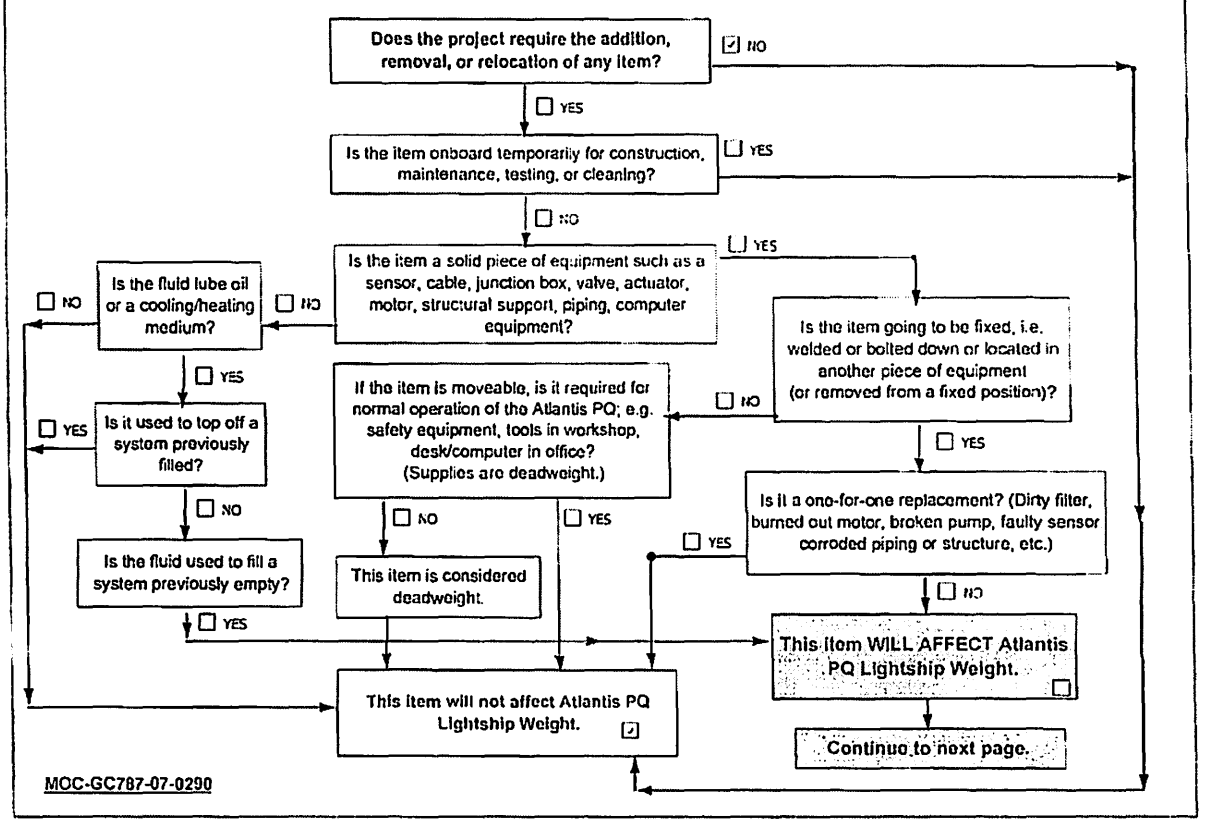
Net weight impact in pounds: n/a lbs **Preliminary** ☐ **Final** ☑

Date of execution – from (mm/dd/yy): 12/9/2007 **to :** 12/31/2007

Location*: n/a

* Inside hull or deck house: please provide room number. Main deck or topsides modules: please provide general area as defined on weight management grid. For relocations, please provide initial (–) and final (+) locations.

Lightship decision chart: Review every item used in the project. Check the Yes / No boxes accordingly.



bp

CAUSE & EFFECT CHART
FUEL GAS SYSTEM INTERLOCKS

PLATFORM IDENTIFICATION : ATLANTIS
PROJECT : GULF OF MEXICO DEEPWATER DEVELOPMENT PROGRAM

DOCUMENT NO. : 1440-20-IC-SP-5652

MUSTANG ENGINEERING, L.P.
HOUSTON, TEXAS

LEGEND
P API RP 14-C Required Info Added
O Other Info Added

	REV.	DATE	BY	DESCRIPTION	CHK	ENGR	APPR	CLIENT
	5		FSR	MoC OCT37-07-4230				
	5	11/2/07	HHS	MoC OP-0163	SR	FSR	LDC	KPO
	4	02/12/07	FSR	SYSTEM HANDOVER AS BUILT	SR	FSR	LDC	KPO

REDACTED

1440-20-IC-SP-5652.xls, Chart

Last Printed: 11/9/2007, 8:45 PM

SHEET 1 OF 1

bp

CAUSE & EFFECT CHART
POWER GENERATION / LOADSHED
INTERLOCKS

PLATFORM IDENTIFICATION : ATLANTIS
PROJECT : GULF OF MEXICO DEEPWATER DEVELOPMENT PROGRAM

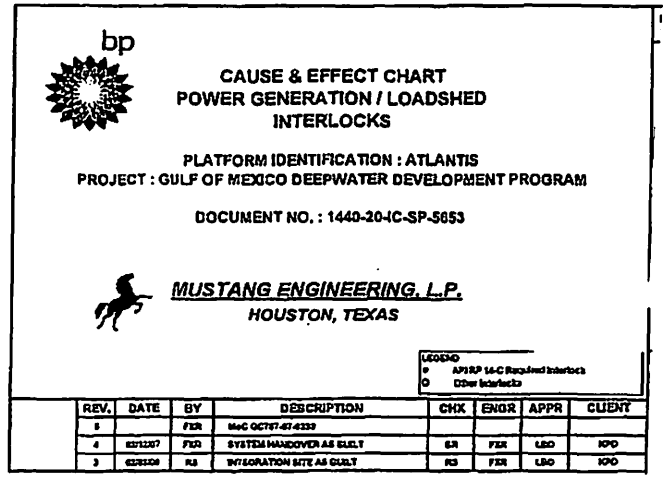
DOCUMENT NO. : 1440-20-4C-SP-5653

MUSTANG ENGINEERING, L.P.
HOUSTON, TEXAS

LEGEND
● API RP 14-C Required Interlock
○ Other Interlocks

REV.	DATE	BY	DESCRIPTION	CHK	ENGR	APPR	CLIENT
6		FXR	Incl OCTET-47-0230				
4	02/12/07	FXR	SYSTEM HANDOVER AS BUILT	SR	FXR	LBD	KPD
3	02/05/06	RS	INTEGRATION SITE AS BUILT	RS	FXR	LBD	KPD

REDACTED



bp

CAUSE & EFFECT CHART
POWER GENERATION / LOADSHED
INTERLOCKS

PLATFORM IDENTIFICATION : ATLANTIS
PROJECT : GULF OF MEXICO DEEPWATER DEVELOPMENT PROGRAM

DOCUMENT NO. : 1440-20-IC-SP-5653

MUSTANG ENGINEERING, L.P.
HOUSTON, TEXAS

LEGEND
P API RP 14-C Required Interlock
O Other Interlocks

REV.	DATE	BY	DESCRIPTION	CHK	ENGR	APPR	CLIENT
5		FER	MoC QC787-07-0239				
4	02/12/07	FER	SYSTEM HANDOVER AS BUILT	ER	FER	LEO	KPO
3	02/23/06	RS	INTEGRATION SITE AS BUILT	RS	FER	LEO	KPO

REDACTED

1440-20-IC-SP-5653.xls, Chart

Last Printed : 12/6/2007, 8:51 PM

SHEET 1 OF 3

bp

CAUSE & EFFECT CHART
POWER GENERATION / LOADSHED
INTERLOCKS

PLATFORM IDENTIFICATION : ATLANTIS
PROJECT : GULF OF MEXICO DEEPWATER DEVELOPMENT PROGRAM

DOCUMENT NO. : 1440-20-IC-SP-5653

MUSTANG ENGINEERING, L.P.
HOUSTON, TEXAS

LEGEND
● API RP 14C Required Interlocks
○ Other Interlocks

REV.	DATE	BY	DESCRIPTION	CHK	ENGR	APPR	CLIENT
5		FXR	MoC OC737-07-0230				
4	03/12/07	FXR	SYSTEM HANDOVER AS BUILT	SR	FXR	LSO	KPO
3	01/31/06	RS	INTEGRATION SITE AS BUILT	RS	FXR	LSO	KPO

REDACTED

1440-20-IC-SP-5653.xls, Chart

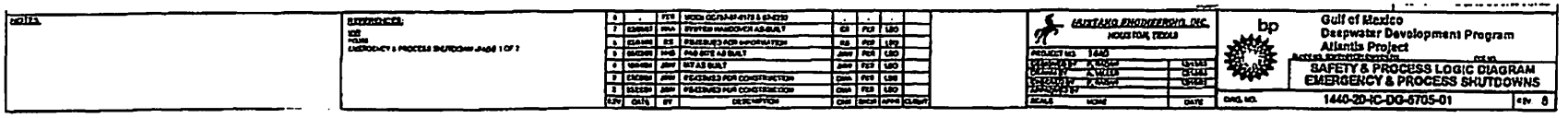
Last Printed : 12/9/2007, 8:51 PM

SHEET 1 OF 3

BPEP_ABB_04135771

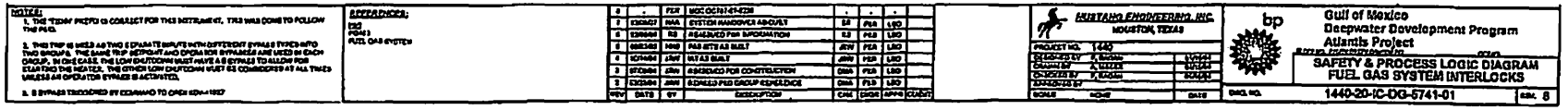
Case 4:09-cv-01193 Document 343-8 Filed in TXSD on 04/04/12 Page 16 of 44

REDACTED

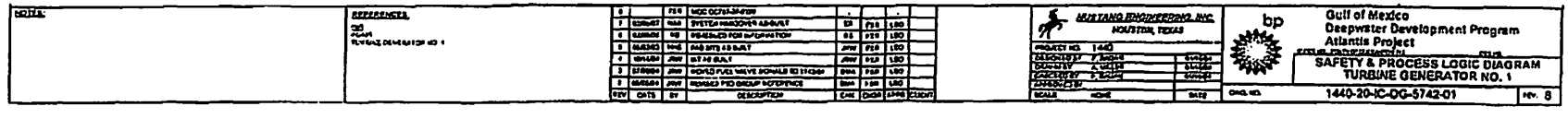


Case 4:09-cv-01193 Document 343-8 Filed in TXSD on 04/04/12 Page 17 of 44

REDACTED



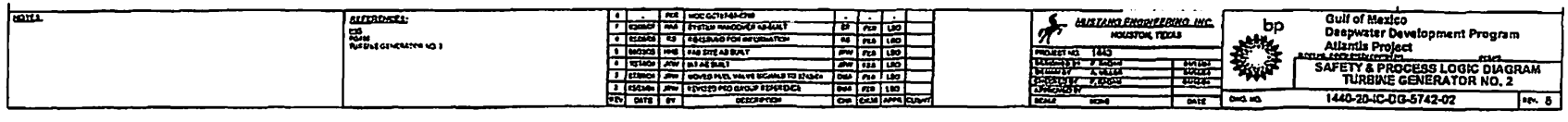
REDACTED



BPEP_ABB_04135774

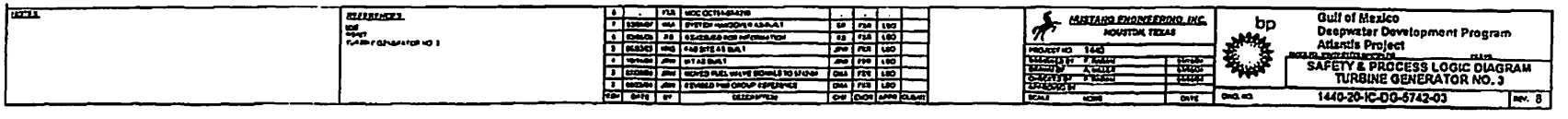
Case 4:09-cv-01193 Document 343-8 Filed in TXSD on 04/04/12 Page 19 of 44

REDACTED

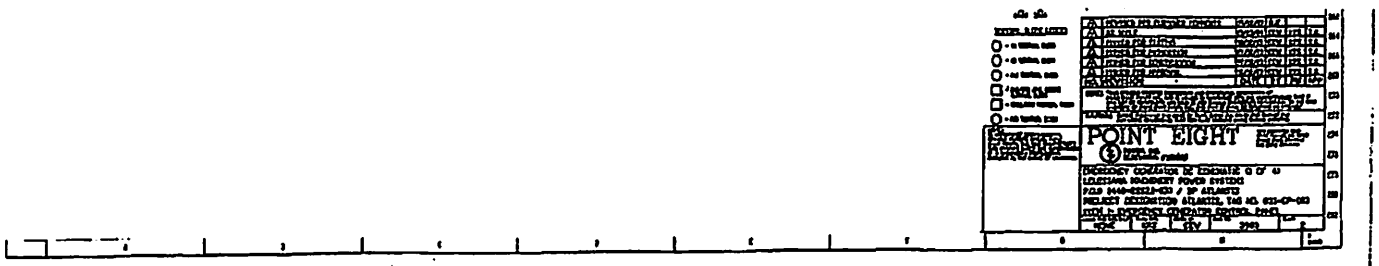


Case 4:09-cv-01193 Document 343-8 Filed in TXSD on 04/04/12 Page 20 of 44

REDACTED



REDACTED



bp

MOC Reviews ?

MOC #: MOC-GC787-07-0290
Date Initiated: 12/9/2007
Initiated By: Ragan, Frank

! Comments have been added for this MOC

Reviews Required	Responsible Person	Disposition		Completed By
Technical Review	Ragan, Frank	◉ Agree	○ Disagree	Ragan, Frank
O&M Review	Atlantis Operations Su	◉ Agree	○ Disagree	Gipson, Les
HSE Review	Atlantis Offshore HSE	◉ Agree	○ Disagree	Tengberg, Kim
Weight Review	Atlantis Weight Revie	◉ Agree	○ Disagree	Ahlf, Tom
Design Safety Review	Atlantis Design Revie	◉ Agree	○ Disagree	Waterhouse, David
Rotating Equipment TA	Nagengast, Chuck	◉ Agree	○ Disagree	Nagengast, Chuck
		○ Agree	○ Disagree	
		○ Agree	○ Disagree	
		○ Agree	○ Disagree	
		○ Agree	○ Disagree	
Technical Authority Review (as needed)		○ Agree	○ Disagree	
Engineering Authority Review (as needed)		○ Agree	○ Disagree	

Does this change require a deviation from Technical Practices or Industry Standards ? ○Yes ◉No

Does this change require Technical Authority Review ? ○Yes ◉No

Does this change require Engineering Authority Review ? ○Yes ◉No

Does this change require any weight to be added or removed ? ○Yes ◉No ?

From: Herrmann, Douglas T
Sent: Thursday, December 20, 2007 10:06:43 AM
To: Ragan, Frank; Gipson, Les
CC: Roades, Barth L; Gardner, Alton P; Ross, Jim; DeJohn, Kenneth P
Subject: RE: Controllers failure, causing OSD

Frank,

Les is correct, I need to gather more information, but the level was low when the LXT failed. The LIC stayed current, can we have both of these as LXT and both need to fail to cause an OSD?

This may be a one off incident of transmitter failure, but we need to have redundancy like we have on some of the F/G.

As Les states if the LXT fails we use the LIC to control level to prevent over flow of the sump, I believe we have options here.

Doug

From: Ragan, Frank
Sent: Thursday, December 20, 2007 8:15 AM
To: Gipson, Les
Cc: Roades, Barth L; Gardner, Alton P; Ross, Jim; DeJohn, Kenneth P; Herrmann, Douglas T
Subject: RE: Controllers failure, causing OSD

Les,

The only places we don't trip on a transmitter failure are where we have two safety transmitters (heating and cooling media expansion tanks) that will automatically trip the interlock. It is the MMS expectation that any safety instrument failure will fail safe. Those two instances are specifically called out on the SAFE Chart.

These transmitters are a good example of that expectation, the most likely reason for them to fail is an overflow condition taking the transmitter beyond it's 103% over-range limit.

Frank

From: Gipson, Les
Sent: Thursday, December 20, 2007 8:09 AM
To: Ragan, Frank
Cc: Roades, Barth L; Gardner, Alton P; Ross, Jim; DeJohn, Kenneth P; Herrmann, Douglas T
Subject: RE: Controllers failure, causing OSD
Importance: High

Frank,

I don't think Doug is asking to SAC the LSHs, but to address the failure mode causing an OSD. As long as the transmitters communicate their failure to the CRO via the Alarm Summary, why should we shut in production? All of the sumps have a second LT on them which can be monitored full time until the failed unit is repaired. The failed transmitter would be logged in our Safety Defeated Log until the repair was completed and the unit back on line.

Regards,

Les Gipson

Production Team Leader
bp GoMP Atlantis PQ
Office: (337) 735-2203

From: Ragan, Frank
Sent: Thursday, December 20, 2007 7:50 AM

To: Herrmann, Douglas T
Cc: Roades, Barth L; Gipson, Les; Gardner, Alton P; Ross, Jim; DeJohn, Kenneth P
Subject: RE: Controllers failure, causing OSD

Doug,

We have no flexibility here. Bryan has been adamant, there will be no SAC for the LSH on our sumps. There are six places where we have an LSH on the sump that causes an OSD. They are the three sumps in the Riser Bay, one sump on the Tank Porch, and the two Disposal Caissons. The concern is that a large leak could overflow the sump and go directly to sea. In our discussions, Bryan described that the MMS used to grant a departure for having two sump pumps, but due to experience with the oil companies, the MMS will no longer accept two pumps in lieu of an LSH.

Looking at it another way, there are two things we could investigate, but neither one sounds cheap or easy.

1) If the overflows did not go to sea, but were piped under the deckbox to the caissons, the LSH would not be required on the sump. This would be a nightmare (impossible?) to install now.

2) Maybe we could use bigger pumps to keep up with the rainfall, and keep the level below the LSH. The problem here is that our caissons would be the recipient of the increased flow, and we already have issues with heavy rainfall overwhelming the pumps in the upper chamber.

Frank

From: Herrmann, Douglas T
Sent: Wednesday, December 19, 2007 7:20 PM
To: Ragan, Frank
Cc: Roades, Barth L; Gipson, Les; Herrmann, Douglas T; Gardner, Alton P; Ross, Jim
Subject: Controllers failure, causing OSD
Importance: High

Frank,

This one is crazy. We had a rain storm today, so Tony Bradberry put the LXT 167002 on the displacement oil tanks sump in bypass. Later the transmitter failed and would have cause a OSD, but it was in bypass...our lucky day for rain.

My question is, why are these set up on failure to OSD the plant? Can we MOC this and get away from this, if so can it happen before Xmas?

We need to work this and I will wait to here back from you on the reasoning before I do anything.

Thanks,

Doug

From: Broman, William H(HOU) <william.broman@bp.com>
Sent: Wednesday, January 2, 2008 9:25 AM
To: Oza, Nita <Nita.Oza@BP.com>
Subject: RE: TRACTION E-mail: Incident Report Approval Required

Any news on this one now that Nere may be back in the office?

Bill Broman
Atlantis Subsea Delivery Manager
GOM Deepwater
281-249-1337 office
william.broman@bp.com

-----Original Message-----
From: Oza, Nita
Sent: Thursday, December 27, 2007 1:17 AM
To: Broman, William H(HOU)
Subject: Re: TRACTION E-mail: Incident Report Approval Required

Sorry Bill, I have not been able to chase this up yet.

I'll get hold of Nére tomorrow to make the changes.
Nita

Sent using BlackBerry

----- Original Message -----
From: Broman, William H(HOU)
To: Oza, Nita
Sent: Thu Dec 27 03:18:42 2007
Subject: FW: TRACTION E-mail: Incident Report Approval Required

Nita, any news on getting these inputs completed? Then I can approve it.

Bill Broman
Atlantis Subsea Delivery Manager
GOM Deepwater
281-249-1337 office
william.broman@bp.com

From: Broman, William H(HOU)
Sent: Saturday, December 22, 2007 2:13 PM
To: Oza, Nita
Cc: Broman, William H(HOU)
Subject: FW: TRACTION E-mail: Incident Report Approval Required

Nita, there is a set of data around Risk and probability of recurrence that needs to be completed before it can be approved.

Bill Broman
Atlantis Subsea Delivery Manager
GOM Deepwater
281-249-1337 office
william.broman@bp.com

From: TRACTION SYSTEM [mailto:traction@tdcirsa1n.amoco.com]
Sent: Friday, December 21, 2007 4:01 PM
Subject: TRACTION E-mail: Incident Report Approval Required

This is an automated message from Traction.

The following IR has been submitted for Approval.This record can be modified after Approval,however the Approver may lock the record to prevent any modifications.The locking process does not affect the process of action item completion but will prevent additional Actions from being added to the record.

Incident Report 2007-IR-2502130 <http://tdcirsa1n.amoco.com:7792/pls/trapa/ACCESS_THE_SYSTEM?Strid_=2502130&strtype_=E> was submitted for approval by MABIN0.

Date Occurred (DD/MM/YYYY)*: 12/12/2007 11:25:00
Stream: Upstream
Site: Not Applicable
Business Unit: GoM Deepwater Production - Atlantis
Organisation Level 1: Production
Organisation Level 2: Atlantis
Organisation Level 3: - Needs Data -
Location 1: Offshore
Location 2: Atlantis PQ
Location 3: - Needs Data -
Nature of Incident: Near Miss / HSE Opportunity
Event Description: Performed a SEM A activate command on SPCU C2 SM2B DC-114A using the FMC Smart Tool (ST Remote) Station. ST was connected to the external sensor SEM A on the tree. This is a typical command. Performed a SEM B activate command on SPCU C2 SM2B DC-114 B using the FMC Smart Tool (ST Remote) Station. ST was connected to the external sensor SEM B on the tree. This time the lower part of the screen on ST showed tree valves being commanded to open. This was not expected or desired response from Smart Tool. FMC engineer was not aware that there was a function which allowed all the valves to be opened.

Immediate Action Taken: Valves were commanded closed, and prcliminary investigation was conducted. Contact FMC with regards to this malfunction. Reported to deputyoperations manager.

Actual Severity:
Potential Risk:
Action Item(s): No

Traction <http://traction.bpweb.bp.com/traction/>

From: Young, Brian J
Sent: Thursday, January 03, 2008 10:56:13 AM
To: Oza, Nita; Berger, Ron K (Manatee)
Subject: LIM alarms

Nita / Ron,
To follow up on our discussion yesterday. I checked the HMI this morning and all of the lines on SPCU 1 and 2 are showing offnormal.

SPCU 1 lines 1 - 6 = offnormal
SPCU 2 lines 1 - 6 = offnormal

However the line insulation reading on each line shows 11 MOHMs. It seems that there is either a noise problem or logic problem. It is likely an FMC problem to address.

Thanks,
Brian

Brian J. Young
Subsea Engineer
Atlantis Subsea Ops
BP - GoM
Direct: (281) 366-3078
Cell:
Fax: (281) 366-1600
Brian.J.Young@bp.com

Discovery Ex. No. 216
Cause No.
4:09-cv-01193
Abbott v. BP

From: Broman, William H(HOU) <william.broman@bp.com>
Sent: Thursday, January 3, 2008 9:09 AM
To: Mabile, Nere <Nere.Mabile@BP.com>; Oza, Nita <Nita.Oza@BP.com>
Subject: RE: TRACTION E-mail: Incident Report Approval Required

approved this morning

Bill Broman
Atlantis Subsea Delivery Manager
GOM Deepwater
281-249-1337 office
william.broman@bp.com

From: Mabile, Nere
Sent: Wednesday, January 02, 2008 9:40 AM
To: Oza, Nita; Broman, William H(HOU)
Subject: RE: TRACTION E-mail: Incident Report Approval Required

Bill,

Nita and I updated the data around Risk and Probability.

Please review incident 2007-IR-2502130 for approval.

Nere/Nita

From: Oza, Nita
Sent: Wednesday, January 02, 2008 9:23 AM
To: Mabile, Nere
Subject: FW: TRACTION E-mail: Incident Report Approval Required

---

From: Broman, William H(HOU)
Sent: Wednesday, December 26, 2007 9:19 PM
To: Oza, Nita
Subject: FW: TRACTION E-mail: Incident Report Approval Required

Nita, any news on getting these inputs completed? Then I can approve it.

Bill Broman
Atlantis Subsea Delivery Manager
GOM Deepwater
281-249-1337 office
william.broman@bp.com

From: Broman, William H(HOU)
Sent: Saturday, December 22, 2007 2:13 PM
To: Oza, Nita
Cc: Broman, William H(HOU)
Subject: FW: TRACTION E-mail: Incident Report Approval Required

Nita, there is a set of data around Risk and probability of recurrence that needs to be completed before it can be approved.

Bill Broman
Atlantis Subsea Delivery Manager
GOM Deepwater
281-249-1337 office
william.broman@bp.com

From: TRACTION SYSTEM [mailto:traction@tdcirsa1n.amoco.com]
Sent: Friday, December 21, 2007 4:01 PM
Subject: TRACTION E-mail: Incident Report Approval Required

This is an automated message from Traction.

The following IR has been submitted for Approval.This record can be modified after Approval,however the Approver may lock the record to prevent any modifications.The locking process does not affect the process of action item completion but will prevent additional Actions from being added to the record.

Incident Report 2007-IR-2502130 was submitted for approval by MABIN0.

Date Occurred (DD/MM/YYYY)*: 12/12/2007 11:25:00
Stream: Upstream
Site: Not Applicable
Business Unit: GoM Deepwater Production - Atlantis
Organisation Level 1: Production
Organisation Level 2: Atlantis
Organisation Level 3: - Needs Data -
Location 1: Offshore
Location 2: Atlantis PQ
Location 3: - Needs Data -
Nature of Incident: Near Miss / HSE Opportunity
Event Description: Performed a SEM A activate command on SPCU C2 SM2B DC-114A using the FMC Smart Tool (ST Remote) Station. ST was connected to the external sensor SEM A on the tree. This is a typical command. Performed a SEM B activate command on SPCU C2 SM2B DC-114 B using the FMC Smart Tool (ST Remote) Station. ST was connected to the external sensor SEM B on the tree. This time the lower part of the screen on ST showed tree valves being commanded to open. This was not expected or desired response from Smart Tool. FMC engineer was not aware that there was a function which allowed all the valves to be opened.
Immediate Action Taken: Valves were commanded closed, and preliminary investigation was conducted. Contact FMC with regards to this malfunction. Reported to deputyoperations manager.

Actual Severity:
Potential Risk:
Action Item(s): No

Traction

From: Broman, William H(HOU) <william.broman@bp.com>
Sent: Monday, January 7, 2008 2:44 PM
To: Oza, Nita <Nita.Oza@bp.com>
Subject: Re: Subsea vavles opening without request.

Do you have whitehead involved and do you need Jan Mundorf?

Odd sounding

Sent from my BlackBerry Wireless Handheld

Discovery Ex. No. 217
Cause No.
4:09-cv-01193
Abbott v. BP

----- Original Message -----
From: Oza, Nita
To: Berger, Ron K (Manatee); Hickok, Doyle D (Technip); Broman, William H(HOU)
Sent: Mon Jan 07 19:36:40 2008
Subject: FW: Subsea vavles opening without request.

Dear All,

The note below is the latest we have from offshore.

We are expecting FMC to come into bp this afternoon, to take a look at this.

Nita Oza
Atlantis Operations
Onshore Subsea Team Lead
Office: 281 366 3901

From: Thomas, Dennis J
Sent: Monday, January 07, 2008 10:37 AM
To: Dean, Wayne (TECHNIP); Young, Brian J; Oza, Nita
Cc: Orr, Scotty; Taylor, Elton Z; Patt, Darren L; Snow, Jeff R; Little, Joshua J; Laborde, David (Baker/MO)
Subject: Subsea vavles opening without request.

This morning from approximately 1am until approximately 4:30 am, the XOV and possibly other valves on DC124 opened multiple times without being requested by the operator. When I reached the control room at 4:20am, Elton Taylor was just recovering from the last of the excursions. He felt that the SmartTool was the culprit. The primary reason for believing this, was that the SEMA icon on the field display screen of SmartTool had been appearing and disappearing from the screen. It was not present on the screen at the time. I checked the event log on the DCS to see if there was any other logical explaination. Since I did not see one, I elected to shutdown SmartTool. No further uncommanded openings occurred. I then went out to look at SPCU1. Everything was normal.

Steve Rogers reports that the SEM A icon was missing last night at about 10pm when he looked at it.

Attached below is the event log and trends of DC124 for the time in question. It appears that there were communication type errors prior to each event. In the first column, I identified the time that the valve was open. This time is not literal, and could easily be off by 60 seconds or a little more as I obtained this from the trend, not an event log.

Please call with any questions,

Dennis Thomas
337-735-2330

<<2008-01-07 Subsea Uncommanded Trips on DC-124.ZIP>>

From: Oza, Nita
Sent: Monday, January 07, 2008 2:36:40 PM
To: Berger, Ron K (Manatee); Hickok, Doyle D (Technip); Broman, William H(HOU)
Subject: FW: Subsea vavles opening without request.

Attachments: 2008-01-07 Subsea Uncommanded Trips on DC-124.ZIP

Dear All,

The note below is the latest we have from offshore.

We are expecting FMC to come into bp this afternoon, to take a look at this.

Nita Oza
Atlantis Operations
Onshore Subsea Team Lead
Office: 281 366 3901

From: Thomas, Dennis J
Sent: Monday, January 07, 2008 10:37 AM
To: Dean, Wayne (TECHNIP); Young, Brian J; Oza, Nita
Cc: Orr, Scotty; Taylor, Elton Z; Patt, Darren L; Snow, Jeff R; Little, Joshua J; Laborde, David (Baker/MO)
Subject: Subsea vavles opening without request.

This morning from approximately 1am until approximately 4:30 am, the XOV and possibly other valves on DC124 opened multiple times without being requested by the operator. When I reached the control room at 4:20am, Elton Taylor was just recovering from the last of the excursions. He felt that the SmartTool was the culprit. The primary reason for believing this, was that the SEMA icon on the field display screen of SmartTool had been appearing and disappearing from the screen. It was not present on the screen at the time. I checked the event log on the DCS to see if there was any other logical explaination. Since I did not see one, I elected to shutdown SmartTool. No further uncommanded openings occurred. I then went out to look at SPCU1. Everything was normal.

Steve Rogers reports that the SEM A icon was missing last night at about 10pm when he looked at it.

Attached below is the event log and trends of DC124 for the time in question. It appears that there were communication type errors prior to each event. In the first column, I identified the time that the valve was open. This time is not literal, and could easily be off by 60 seconds or a little more as I obtained this from the trend, not an event log.

Please call with any questions,

Dennis Thomas

2008-01-07 Subsea Uncommanded Trips on DC-124.ZIP (613 kB)

From: Oza, Nita <Nita.Oza@bp.com>
Sent: Monday, January 7, 2008 2:37 PM
To: Berger, Ron K (Manatee) <ron.berger@bp.com>; Hickok, Doyle D (Technip) <Doyle.Hickok@bp.com>; Broman, William H(HOU) <william.broman@bp.com>
Subject: FW: Subsea vavles opening without request.
Attach: 2008-01-07 Subsea Uncommanded Trips on DC-124.ZIP

Dear All,

The note below is the latest we have from offshore.

We are expecting FMC to come into bp this afternoon, to take a look at this.

Nita Oza
Atlantis Operations
Onshore Subsea Team Lead
Office: 281 366 3901

From: Thomas, Dennis J
Sent: Monday, January 07, 2008 10:37 AM
To: Dean, Wayne (TECHNIP); Young, Brian J; Oza, Nita
Cc: Orr, Scotty; Taylor, Elton Z; Patt, Darren L; Snow, Jeff R; Little, Joshua J; Laborde, David (Baker/MO)
Subject: Subsea vavles opening without request.

This morning from approximately 1am until approximately 4:30 am, the XOV and possibly other valves on DC124 opened multiple times without being requested by the operator. When I reached the control room at 4:20am, Elton Taylor was just recovering from the last of the excursions. He felt that the SmartTool was the culprit. The primary reason for believing this, was that the SEMA icon on the field display screen of SmartTool had been appearing and disappearing from the screen. It was not present on the screen at the time. I checked the event log on the DCS to see if there was any other logical explaination. Since I did not see one, I elected to shutdown SmartTool. No further uncommanded openings occurred. I then went out to look at SPCU1. Everything was normal.

Steve Rogers reports that the SEM A icon was missing last night at about 10pm when he looked at it.

Attached below is the event log and trends of DC124 for the time in question. It appears that there were communication type errors prior to each event. In the first column, I identified the time that the valve was open. This time is not literal, and could easily be off by 60 seconds or a little more as I obtained this from the trend, not an event log.

Please call with any questions,

Dennis Thomas

<<2008-01-07 Subsea Uncommanded Trips on DC-124.ZIP>>

BPEP_ABB_04125310 .xls - Event Journal - Sheet

XOV Open	DATE	TIME	TAGNAME	CONDITON		PRIORITY	DESCRIPTION	TRIP VALUE	UNITS	
	6-Jan-08	11:24:30 PM	AT_TSS_01	COMMS		J 00	Data from AT_TSS_01	UNAVAILABLE		
	6-Jan-08	11:24:31 PM	AT_TSS_01	COMMS	OK	J 00	Data from AT_TSS_01	OK		
	6-Jan-08	11:28:04 PM	ATS_HCV12417_STEPMODE	CHANGE		NONE	OP	STEPOPEN		HIGH LEVEL SUBSEA C~
	6-Jan-08	11:28:05 PM	ATS_HCV12417_MOV	CHANGE		NONE	OP	STEPS		HIGH LEVEL SUBSEA C~
	7-Jan-08	12:00:01 AM	ATS_WATCHDOG_C1	RSLO		J 00	SERVER TO C1 COMM PROBLEM	-86399	SECS	
	7-Jan-08	12:00:02 AM	ATS_WATCHDOG_C1	RSLO	OK	J 00	SERVER TO C1 COMM PROBLEM	1	SECS	
	7-Jan-08	12:06:07 AM	ATS_CI11180_FAIL	ALARM	OK	U 00	DC-111 ACOUSTIC SAND DETECTOR - TEST LINE	NORMAL		
	7-Jan-08	12:06:07 AM	ATS_CI11180_HIHI	ALARM	OK	U 00	DC-111 ACOUSTIC SAND DETECTOR - TEST LINE	NORMAL		
	7-Jan-08	12:06:07 AM	ATS_CI11180_HI	ALARM	OK	H 00	DC-111 ACOUSTIC SAND DETECTOR - TEST LINE	NORMAL		
	7-Jan-08	12:06:23 AM	ATT_PH98361_BYP	CHANGE		NONE	OP	MAN_BYP		HIGH LEVEL SUBSEA C~
	7-Jan-08	12:06:24 AM	ATT_PL98361_BYP	CHANGE		NONE	OP	MAN_BYP		HIGH LEVEL SUBSEA C~
	7-Jan-08	12:07:16 AM	ATT_PL98311_BYP	CHANGE		NONE	OP	MAN_BYP		HIGH LEVEL SUBSEA C~
	7-Jan-08	12:38:15 AM	ATT_PI98361	CHANGE		NONE	A1	4945		HIGH LEVEL SUBSEA C~
	7-Jan-08	12:38:20 AM	ATT_PH98361_BYP	CHANGE		NONE	OP	NORMAL		HIGH LEVEL SUBSEA C~
	7-Jan-08	12:38:21 AM	ATT_PL98361_BYP	CHANGE		NONE	OP	NORMAL		HIGH LEVEL SUBSEA C~
	7-Jan-08	12:42:36 AM	ATT_PI98311	CHANGE		NONE	A1	5239		HIGH LEVEL SUBSEA C~
	7-Jan-08	12:42:39 AM	ATT_PH98311_BYP	CHANGE		NONE	OP	NORMAL		HIGH LEVEL SUBSEA C~
	7-Jan-08	12:42:39 AM	ATT_PL98311_BYP	CHANGE		NONE	OP	NORMAL		HIGH LEVEL SUBSEA C~
	7-Jan-08	12:43:05 AM	ATS_SCU_C1_RC01A_S02_MVI_NOCONN~	ALARM		H 00	RC01A SLOT 02 MVI PROSOFT MODULE NO CONNECTION	FAULT		
	7-Jan-08	12:43:08 AM	ATT_PH98361_BYP	CHANGE		NONE	OP	MAN_BYP		HIGH LEVEL SUBSEA C~
	7-Jan-08	12:43:14 AM	ATS_SCU_C1_RC01A_S02_MVI_NOCONN~	ALARM	ACK	NONE	RC01A SLOT 02 MVI PROSOFT MODULE NO CONNECTION	FAULT		SPCHANGE
	7-Jan-08	12:48:20 AM	ATS_SCU_C1_RC01A_S02_MVI_NOCONN~	ALARM	OK	H 00	RC01A SLOT 02 MVI PROSOFT MODULE NO CONNECTION	NORMAL		
	7-Jan-08	12:48:40 AM	ATS_ET12465A_STAT	ALARM		H 00	DC-124 SEM SUPPLY VOLTAGE SEM A STATUS	PV_BAD		
	7-Jan-08	12:48:48 AM	ATS_ET12465A_STAT	ALARM	OK	H 00	DC-124 SEM SUPPLY VOLTAGE SEM A STATUS	NORMAL		
	7-Jan-08	12:51:09 AM	ATS_XV12416_CNTRL	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
	7-Jan-08	12:51:09 AM	ATS_XV12416_OP	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
	7-Jan-08	12:51:47 AM	ATS_XV12413_CNTRL	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
	7-Jan-08	12:51:48 AM	ATS_XV12413_OP	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
	7-Jan-08	12:56:19 AM	ATS_XV12414_CNTRL	CHANGE		NONE	OP	CLOSE		HIGH LEVEL SUBSEA C~
	7-Jan-08	12:56:41 AM	ATS_XV12414_CNTRL	CHANGE		NONE	OP	CLOSE		HIGH LEVEL SUBSEA C~
	7-Jan-08	12:56:41 AM	ATS_XV12414_OP	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
	7-Jan-08	12:56:44 AM	ATS_XV12414_INTLK	ALARM		J 00	DC-124 ANNULUS MASTER VALVE (AMV)	INTLK		
	7-Jan-08	12:57:03 AM	ATS_XV12416_CNTRL	CHANGE		NONE	OP	CLOSE		HIGH LEVEL SUBSEA C~
	7-Jan-08	12:57:04 AM	ATS_XV12416_OP	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
	7-Jan-08	12:57:18 AM	ATS_PI12433	PVHI		H 00	DC-124 ANNULUS PRESSURE	4070.54	PSIA	
	7-Jan-08	12:57:30 AM	ATS_XV12412_CNTRL	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
	7-Jan-08	12:57:31 AM	ATS_XV12412_OP	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
	7-Jan-08	1:00:31 AM	ATS_XV12412_CNTRL	CHANGE		NONE	OP	CLOSE		HIGH LEVEL SUBSEA C~
	7-Jan-08	1:00:31 AM	ATS_XV12412_OP	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
	7-Jan-08	1:01:35 AM	ATS_PI12433	PVHI	OK	H 00	DC-124 ANNULUS PRESSURE	3628.85	PSIA	
	7-Jan-08	1:02:08 AM	ATS_XV12413_CNTRL	CHANGE		NONE	OP	CLOSE		HIGH LEVEL SUBSEA C~
	7-Jan-08	1:02:09 AM	ATS_XV12413_OP	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
	7-Jan-08	1:02:13 AM	ATS_PI12433	PVHI	ACK	NONE	DC-124 ANNULUS PRESSURE	4070.54	PSIA	HIGH LEVEL SUBSEA C~
	7-Jan-08	1:02:13 AM	ATS_PI12433	ALARM	ACK PNT	NONE	DC-124 ANNULUS PRESSURE			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:02:13 AM	ATS_ET12465A_STAT	ALARM	ACK	NONE	DC-124 SEM SUPPLY VOLTAGE SEM A STATUS	PV_BAD		HIGH LEVEL SUBSEA C~

XOV Open	DATE	TIME	TAGNAME	CONDITON		PRIORITY	DESCRIPTION	TRIP VALUE	UNITS	
	7-Jan-08	1:02:13 AM	ATS_ET12465A_STAT	ALARM	ACK PNT	NONE	DC-124 SEM SUPPLY VOLTAGE SEM A STATUS			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:02:29 AM	ATS_XV12414_INTLK	ALARM	OK	J 00	DC-124 ANNULUS MASTER VALVE (AMV)	NORMAL		
	7-Jan-08	1:02:31 AM	ATS_XV12414_CNTRL	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
	7-Jan-08	1:02:32 AM	ATS_XV12414_OP	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
	7-Jan-08	1:05:20 AM	ATS_XV12416_CNTRL	ALARM		H 00	DC-124 DOWNSTREAM CROSSOVER VALVE (DXV)	BAD		
	7-Jan-08	1:05:20 AM	ATS_XV12416_TO	ALARM		J 00	DC-124 DOWNSTREAM CROSSOVER VALVE (DXV)	TIMEOUT		
	7-Jan-08	1:05:30 AM	ATS_XV12413_CNTRL	ALARM		H 00	DC-124 ANNULUS WING VALVE (AWV)	BAD		
	7-Jan-08	1:05:30 AM	ATS_XV12413_TO	ALARM		J 00	DC-124 ANNULUS WING VALVE (AWV)	TIMEOUT		
	7-Jan-08	1:15:10 AM	ATS_XV12414_CNTRL	ALARM		H 00	DC-124 ANNULUS MASTER VALVE (AMV)	BAD		
	7-Jan-08	1:15:10 AM	ATS_XV12414_TO	ALARM		J 00	DC-124 ANNULUS MASTER VALVE (AMV)	TIMEOUT		
	7-Jan-08	1:15:10 AM	ATS_XV12414_INTLK	ALARM		J 00	DC-124 ANNULUS MASTER VALVE (AMV)	INTLK		
	7-Jan-08	1:15:30 AM	ATS_XV12414_CNTRL	ALARM	ACK	NONE	DC-124 ANNULUS MASTER VALVE (AMV)	BAD		HIGH LEVEL SUBSEA C~
	7-Jan-08	1:15:30 AM	ATS_XV12414_CNTRL	ALARM	ACK PNT	NONE	DC-124 ANNULUS MASTER VALVE (AMV)			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:15:31 AM	ATS_XV12416_CNTRL	ALARM	ACK	NONE	DC-124 DOWNSTREAM CROSSOVER VALVE (DXV)	BAD		HIGH LEVEL SUBSEA C~
	7-Jan-08	1:15:31 AM	ATS_XV12416_CNTRL	ALARM	ACK PNT	NONE	DC-124 DOWNSTREAM CROSSOVER VALVE (DXV)			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:15:31 AM	ATS_XV12413_CNTRL	ALARM	ACK	NONE	DC-124 ANNULUS WING VALVE (AWV)	BAD		HIGH LEVEL SUBSEA C~
	7-Jan-08	1:15:31 AM	ATS_XV12413_CNTRL	ALARM	ACK PNT	NONE	DC-124 ANNULUS WING VALVE (AWV)			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:15:42 AM	ATS_XV12416_CNTRL	CHANGE		NONE	OP	CLOSE		HIGH LEVEL SUBSEA C~
	7-Jan-08	1:15:42 AM	ATS_XV12416_OP	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
	7-Jan-08	1:15:46 AM	ATS_XV12416_CNTRL	ALARM	OK	H 00	DC-124 DOWNSTREAM CROSSOVER VALVE (DXV)	TRAVEL		
	7-Jan-08	1:15:46 AM	ATS_XV12416_TO	ALARM	OK	J 00	DC-124 DOWNSTREAM CROSSOVER VALVE (DXV)	NORMAL		
	7-Jan-08	1:15:54 AM	ATS_XV12413_CNTRL	CHANGE		NONE	OP	CLOSE		HIGH LEVEL SUBSEA C~
	7-Jan-08	1:15:55 AM	ATS_XV12413_OP	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
	7-Jan-08	1:15:58 AM	ATS_XV12413_CNTRL	ALARM	OK	H 00	DC-124 ANNULUS WING VALVE (AWV)	TRAVEL		
	7-Jan-08	1:15:58 AM	ATS_XV12413_TO	ALARM	OK	J 00	DC-124 ANNULUS WING VALVE (AWV)	NORMAL		
	7-Jan-08	1:16:14 AM	ATS_XV12414_INTLK	ALARM	OK	J 00	DC-124 ANNULUS MASTER VALVE (AMV)	NORMAL		
	7-Jan-08	1:16:25 AM	ATS_XV12414_CNTRL	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
	7-Jan-08	1:16:25 AM	ATS_XV12414_OP	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
	7-Jan-08	1:16:30 AM	ATS_XV12414_CNTRL	ALARM	OK	H 00	DC-124 ANNULUS MASTER VALVE (AMV)	TRAVEL		
	7-Jan-08	1:16:30 AM	ATS_XV12414_TO	ALARM	OK	J 00	DC-124 ANNULUS MASTER VALVE (AMV)	NORMAL		
	7-Jan-08	1:16:47 AM	ATS_XV12414_CNTRL	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
	7-Jan-08	1:16:48 AM	ATS_XV12414_OP	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
	7-Jan-08	1:20:26 AM	ATS_PI12433	PVHI		H 00	DC-124 ANNULUS PRESSURE	4130.92	PSIA	
OPEN	7-Jan-08	1:20:30 AM	ATS_XV12412_CNTRL	ALARM		H 00	DC-124 CROSSOVER VALVE (XOV)	BAD		
OPEN	7-Jan-08	1:20:30 AM	ATS_XV12412_TO	ALARM		J 00	DC-124 CROSSOVER VALVE (XOV)	TIMEOUT		
OPEN	7-Jan-08	1:22:26 AM	ATS_XV12412_CNTRL	CHANGE		NONE	OP	CLOSE		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	1:22:27 AM	ATS_XV12412_OP	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~

XOV Open	DATE	TIME	TAGNAME	CONDITON		PRIORITY	DESCRIPTION	TRIP VALUE	UNITS	
OPEN	7-Jan-08	1:22:30 AM	ATS_XV12412_CNTRL	ALARM	OK	H 00	DC-124 CROSSOVER VALVE (XOV)	TRAVEL		
OPEN	7-Jan-08	1:22:30 AM	ATS_XV12412_TO	ALARM	OK	J 00	DC-124 CROSSOVER VALVE (XOV)	NORMAL		
OPEN	7-Jan-08	1:23:00 AM	ATS_PI12433	PVHI	ACK	NONE	DC-124 ANNULUS PRESSURE	4130.92	PSIA	HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	1:23:00 AM	ATS_PI12433	ALARM	ACK PNT	NONE	DC-124 ANNULUS PRESSURE			HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	1:23:01 AM	ATS_XV12412_CNTRL	ALARM	ACK	NONE	DC-124 CROSSOVER VALVE (XOV)	BAD		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	1:23:01 AM	ATS_XV12412_CNTRL	ALARM	ACK PNT	NONE	DC-124 CROSSOVER VALVE (XOV)			HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	1:23:27 AM	ATS_XV12416_CNTRL	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	1:23:28 AM	ATS_XV12416_OP	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	1:23:39 AM	ATS_PI12433	PVHI	OK	H 00	DC-124 ANNULUS PRESSURE	3384.18	PSIA	
OPEN	7-Jan-08	1:23:45 AM	ATS_XV12413_CNTRL	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	1:23:45 AM	ATS_XV12413_OP	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:01 AM	ATT_HS984AB_RUN_CMD	ALARM	ACK PNT	NONE	CORR/SCALE XFR PMP			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:01 AM	ATT_XV98301	ALARM	ACK PNT	NONE	COR/SCL INHIB BULK TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:01 AM	ATT_XV98301	ALARM	ACK PNT	NONE	COR/SCL INHIB BULK TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:01 AM	ATT_XV98101	ALARM	ACK PNT	NONE	ASPHALTENE INHIB BULK TK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:01 AM	ATT_XV98101	ALARM	ACK PNT	NONE	ASPHALTENE INHIB BULK TK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:01 AM	ATT_XV98351	ALARM	ACK PNT	NONE	COR/SCL INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:01 AM	ATT_XV98351	ALARM	ACK PNT	NONE	COR/SCL INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:01 AM	ATT_XV98151	ALARM	ACK PNT	NONE	ASPHALTENE INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:01 AM	ATT_XV98151_ALM	ALARM	ACK PNT	NONE	ASPHALTENE INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:01 AM	ATT_XV98151	ALARM	ACK PNT	NONE	ASPHALTENE INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:01 AM	ATT_PXT98361	ALARM	ACK PNT	NONE	ASPHALT INJ PMP 1 DISCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:01 AM	ATT_PXT98361	ALARM	ACK PNT	NONE	ASPHALT INJ PMP 1 DISCH			HIGH LEVEL SUBSEA C~

BPEP_ABB_04125310-..xls - "Event Journal" Sheet

XOV Open	DATE	TIME	TAGNAME	CONDITON	ACK	PRIORITY	DESCRIPTION	TRIP VALUE	UNITS	
	7-Jan-08	1:25:01 AM	ATT_PXT98311	ALARM	PNT	NONE	COR/SCL INHIB PMP DISCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:01 AM	ATT_PXT98311	ALARM	PNT	NONE	COR/SCL INHIB PMP DISCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:01 AM	ATT_PXT98111	ALARM	PNT	NONE	ASPHALT INJ PMP 2 DSCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:01 AM	ATT_PXT98111	ALARM	PNT	NONE	ASPHALT INJ PMP 2 DSCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:01 AM	ATT_PXT98161	ALARM	PNT	NONE	COR/SCL INHIB PMP 2 DSCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:01 AM	ATT_PXT98161	ALARM	PNT	NONE	COR/SCL INHIB PMP 2 DSCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:01 AM	ATT_LXT98351	ALARM	PNT	NONE	COR/SCL INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:01 AM	ATT_LXT98351	ALARM	PNT	NONE	COR/SCL INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:01 AM	ATT_LXT98151	ALARM	PNT	NONE	ASPHALTENE INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:01 AM	ATT_LXT98151	ALARM	PNT	NONE	ASPHALTENE INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:01 AM	ATT_LXT98301	ALARM	PNT	NONE	COR/SCL INHIB BULK TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:01 AM	ATT_LXT98301	ALARM	PNT	NONE	COR/SCL INHIB BULK TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:01 AM	ATT_LXT98101	ALARM	PNT	NONE	ASPHALTENE INHIB BULK TK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:01 AM	ATT_LXT98101	ALARM	PNT	NONE	ASPHALTENE INHIB BULK TK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:01 AM	ATT_HS984AB_RUN_CMD	ALARM	PNT	NONE	CORR/SCALE XFR PMP			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:01 AM	ATT_HS984AB_RUN_CMD	ALARM	PNT	NONE	CORR/SCALE XFR PMP			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:01 AM	ATT_HS982AB_RUN_CMD	ALARM	PNT	NONE	ASPHLTNE XFR PMP			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:01 AM	ATT_HS982AB_RUN_CMD	ALARM	PNT	NONE	ASPHLTNE XFR PMP			HIGH LEVEL SUBSEA C~

BPEP_ABB_04125310 .xls - "Event Journal" Sheet

XOV Open	DATE	TIME	TAGNAME	CONDITION		PRIORITY	DESCRIPTION	TRIP VALUE	UNITS	
	7-Jan-08	1:25:01 AM	ATT_HS982AB_RUN_CMD	ALARM	ACK PNT	NONE	ASPHLTNE XFR PMP			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:01 AM	ATT_HS984AB_RUN_CMD	ALARM	ACK PNT	NONE	CORR/SCALE XFR PMP			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:01 AM	ATT_XV98301	ALARM	ACK PNT	NONE	COR/SCL INHIB BULK TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:01 AM	ATT_XV98301	ALARM	ACK PNT	NONE	COR/SCL INHIB BULK TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:01 AM	ATT_XV98101	ALARM	ACK PNT	NONE	ASPHALTENE INHIB BULK TK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:01 AM	ATT_XV98101	ALARM	ACK PNT	NONE	ASPHALTENE INHIB BULK TK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:01 AM	ATT_XV98351	ALARM	ACK PNT	NONE	COR/SCL INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:02 AM	ATT_XV98351	ALARM	ACK PNT	NONE	COR/SCL INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:02 AM	ATT_XV98151	ALARM	ACK PNT	NONE	ASPHALTENE INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:02 AM	ATT_XV98151	ALARM	ACK PNT	NONE	ASPHALTENE INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:02 AM	ATT_PXT98361	ALARM	ACK PNT	NONE	ASPHALT INJ PMP 1 DISCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:02 AM	ATT_PXT98361	ALARM	ACK PNT	NONE	ASPHALT INJ PMP 1 DISCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:02 AM	ATT_PXT98311	ALARM	ACK PNT	NONE	COR/SCL INHIB PMP DISCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:02 AM	ATT_PXT98311	ALARM	ACK PNT	NONE	COR/SCL INHIB PMP DISCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:02 AM	ATT_PXT98111	ALARM	ACK PNT	NONE	ASPHALT INJ PMP 2 DSCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:02 AM	ATT_PXT98111	ALARM	ACK PNT	NONE	ASPHALT INJ PMP 2 DSCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:02 AM	ATT_PXT98161	ALARM	ACK PNT	NONE	COR/SCL INHIB PMP 2 DSCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:02 AM	ATT_PXT98161	ALARM	ACK PNT	NONE	COR/SCL INHIB PMP 2 DSCH			HIGH LEVEL SUBSEA C~

BPEP_ABB_04125310- ..xls - "Event Journal" Sheet

XOV Open	DATE	TIME	TAGNAME	CONDITON		PRIORITY	DESCRIPTION	TRIP VALUE	UNITS	
	7-Jan-08	1:25:02 AM	ATT_LXT98351	ALARM	ACK PNT	NONE	COR/SCL INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:02 AM	ATT_LXT98351	ALARM	ACK PNT	NONE	COR/SCL INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:02 AM	ATT_LXT98151	ALARM	ACK PNT	NONE	ASPHALTENE INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:02 AM	ATT_LXT98151	ALARM	ACK PNT	NONE	ASPHALTENE INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:02 AM	ATT_LXT98301	ALARM	ACK PNT	NONE	COR/SCL INHIB BULK TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:02 AM	ATT_LXT98301	ALARM	ACK PNT	NONE	COR/SCL INHIB BULK TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:02 AM	ATT_LXT98101	ALARM	ACK PNT	NONE	ASPHALTENE INHIB BULK TK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:02 AM	ATT_LXT98101	ALARM	ACK PNT	NONE	ASPHALTENE INHIB BULK TK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:02 AM	ATT_HS984AB_RUN_CMD	ALARM	ACK PNT	NONE	CORR/SCALE XFR PMP			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:02 AM	ATT_HS984AB_RUN_CMD	ALARM	ACK PNT	NONE	CORR/SCALE XFR PMP			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:02 AM	ATT_HS982AB_RUN_CMD	ALARM	ACK PNT	NONE	ASPHLTNE XFR PMP			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:02 AM	ATT_HS982AB_RUN_CMD	ALARM	ACK PNT	NONE	ASPHLTNE XFR PMP			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:02 AM	ATT_HS982AB_RUN_CMD	ALARM	ACK PNT	NONE	ASPHLTNE XFR PMP			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:02 AM	ATT_HS984AB_RUN_CMD	ALARM	ACK PNT	NONE	CORR/SCALE XFR PMP			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:02 AM	ATT_XV98301	ALARM	ACK PNT	NONE	COR/SCL INHIB BULK TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:02 AM	ATT_XV98301	ALARM	ACK PNT	NONE	COR/SCL INHIB BULK TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:02 AM	ATT_XV98101	ALARM	ACK PNT	NONE	ASPHALTENE INHIB BULK TK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:02 AM	ATT_XV98101	ALARM	ACK PNT	NONE	ASPHALTENE INHIB BULK TK			HIGH LEVEL SUBSEA C~

BPEP_ABB_04125310- xls - "Event Journal" Sheet

XOV Open	DATE	TIME	TAGNAME	CONDITON		PRIORITY	DESCRIPTION	TRIP VALUE	UNITS	
	7-Jan-08	1:25:02 AM	ATT_XV98351	ALARM	ACK PNT	NONE	COR/SCL INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:02 AM	ATT_XV98351	ALARM	ACK PNT	NONE	COR/SCL INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:02 AM	ATT_XV98151	ALARM	ACK PNT	NONE	ASPHALTENE INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:02 AM	ATT_XV98151	ALARM	ACK PNT	NONE	ASPHALTENE INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:02 AM	ATT_PXT98361	ALARM	ACK PNT	NONE	ASPHALT INJ PMP 1 DISCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:02 AM	ATT_PXT98361	ALARM	ACK PNT	NONE	ASPHALT INJ PMP 1 DISCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:02 AM	ATT_PXT98311	ALARM	ACK PNT	NONE	COR/SCL INHIB PMP DISCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:02 AM	ATT_PXT98311	ALARM	ACK PNT	NONE	COR/SCL INHIB PMP DISCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:02 AM	ATT_PXT98111	ALARM	ACK PNT	NONE	ASPHALT INJ PMP 2 DSCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:02 AM	ATT_PXT98111	ALARM	ACK PNT	NONE	ASPHALT INJ PMP 2 DSCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:03 AM	ATT_PXT98161	ALARM	ACK PNT	NONE	COR/SCL INHIB PMP 2 DSCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:03 AM	ATT_PXT98161	ALARM	ACK PNT	NONE	COR/SCL INHIB PMP 2 DSCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:03 AM	ATT_LXT98351	ALARM	ACK PNT	NONE	COR/SCL INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:03 AM	ATT_LXT98351	ALARM	ACK PNT	NONE	COR/SCL INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:03 AM	ATT_LXT98151	ALARM	ACK PNT	NONE	ASPHALTENE INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:03 AM	ATT_LXT98151	ALARM	ACK PNT	NONE	ASPHALTENE INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:03 AM	ATT_LXT98301	ALARM	ACK PNT	NONE	COR/SCL INHIB BULK TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:03 AM	ATT_LXT98301	ALARM	ACK PNT	NONE	COR/SCL INHIB BULK TANK			HIGH LEVEL SUBSEA C~

BPEP_ABB_04125310- ..xls - "Event Journal" Sheet

XOV Open	DATE	TIME	TAGNAME	CONDITON		PRIORITY	DESCRIPTION	TRIP VALUE	UNITS	
	7-Jan-08	1:25:03 AM	ATT_LXT98101	ALARM	ACK PNT	NONE	ASPHALTENE INHIB BULK TK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:03 AM	ATT_LXT98101	ALARM	ACK PNT	NONE	ASPHALTENE INHIB BULK TK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:03 AM	ATT_HS984AB_RUN_CMD	ALARM	ACK PNT	NONE	CORR/SCALE XFR PMP			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:03 AM	ATT_HS984AB_RUN_CMD	ALARM	ACK PNT	NONE	CORR/SCALE XFR PMP			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:03 AM	ATT_HS982AB_RUN_CMD	ALARM	ACK PNT	NONE	ASPHLTNE XFR PMP			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:03 AM	ATT_HS982AB_RUN_CMD	ALARM	ACK PNT	NONE	ASPHLTNE XFR PMP			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:03 AM	ATT_HS982AB_RUN_CMD	ALARM	ACK PNT	NONE	ASPHLTNE XFR PMP			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:03 AM	ATT_HS984AB_RUN_CMD	ALARM	ACK PNT	NONE	CORR/SCALE XFR PMP			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:03 AM	ATT_XV98301	ALARM	ACK PNT	NONE	COR/SCL INHIB BULK TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:03 AM	ATT_XV98301	ALARM	ACK PNT	NONE	COR/SCL INHIB BULK TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:03 AM	ATT_XV98101	ALARM	ACK PNT	NONE	ASPHALTENE INHIB BULK TK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:03 AM	ATT_XV98101	ALARM	ACK PNT	NONE	ASPHALTENE INHIB BULK TK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:03 AM	ATT_XV98351	ALARM	ACK PNT	NONE	COR/SCL INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:03 AM	ATT_XV98351	ALARM	ACK PNT	NONE	COR/SCL INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:03 AM	ATT_XV98151	ALARM	ACK PNT	NONE	ASPHALTENE INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:03 AM	ATT_XV98151	ALARM	ACK PNT	NONE	ASPHALTENE INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:03 AM	ATT_PXT98361	ALARM	ACK PNT	NONE	ASPHALT INJ PMP 1 DISCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:03 AM	ATT_PXT98361	ALARM	ACK PNT	NONE	ASPHALT INJ PMP 1 DISCH			HIGH LEVEL SUBSEA C~

Exhibit 107
Part 3

BPEP_ABB_04125310- ..xls - "Event Journal" Sheet

XOV Open	DATE	TIME	TAGNAME	CONDITON		PRIORITY	DESCRIPTION	TRIP VALUE	UNITS	
	7-Jan-08	1:25:03 AM	ATT_PXT98311	ALARM	ACK PNT	NONE	COR/SCL INHIB PMP DISCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:03 AM	ATT_PXT98311	ALARM	ACK PNT	NONE	COR/SCL INHIB PMP DISCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:03 AM	ATT_PXT98111	ALARM	ACK PNT	NONE	ASPHALT INJ PMP 2 DSCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:03 AM	ATT_PXT98111	ALARM	ACK PNT	NONE	ASPHALT INJ PMP 2 DSCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:03 AM	ATT_PXT98161	ALARM	ACK PNT	NONE	COR/SCL INHIB PMP 2 DSCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:03 AM	ATT_PXT98161	ALARM	ACK PNT	NONE	COR/SCL INHIB PMP 2 DSCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:03 AM	ATT_LXT98351	ALARM	ACK PNT	NONE	COR/SCL INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:03 AM	ATT_LXT98351	ALARM	ACK PNT	NONE	COR/SCL INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:03 AM	ATT_LXT98151	ALARM	ACK PNT	NONE	ASPHALTENE INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:03 AM	ATT_LXT98151	ALARM	ACK PNT	NONE	ASPHALTENE INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:03 AM	ATT_LXT98301	ALARM	ACK PNT	NONE	COR/SCL INHIB BULK TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:03 AM	ATT_LXT98301	ALARM	ACK PNT	NONE	COR/SCL INHIB BULK TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:03 AM	ATT_LXT98101	ALARM	ACK PNT	NONE	ASPHALTENE INHIB BULK TK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:04 AM	ATT_LXT98101	ALARM	ACK PNT	NONE	ASPHALTENE INHIB BULK TK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:04 AM	ATT_HS984AB_RUN_CMD	ALARM	ACK PNT	NONE	CORR/SCALE XFR PMP			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:04 AM	ATT_HS984AB_RUN_CMD	ALARM	ACK PNT	NONE	CORR/SCALE XFR PMP			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:04 AM	ATT_HS982AB_RUN_CMD	ALARM	ACK PNT	NONE	ASPHLTNE XFR PMP			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:04 AM	ATT_HS982AB_RUN_CMD	ALARM	ACK PNT	NONE	ASPHLTNE XFR PMP			HIGH LEVEL SUBSEA C~

BPEP_ABB_04125310-.xls - "Event Journal" Sheet

XOV Open	DATE	TIME	TAGNAME	CONDITON		PRIORITY	DESCRIPTION	TRIP VALUE	UNITS	
	7-Jan-08	1:25:04 AM	ATT_HS982AB_RUN_CMD	ALARM	ACK PNT	NONE	ASPHLTNE XFR PMP			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:04 AM	ATT_HS984AB_RUN_CMD	ALARM	ACK PNT	NONE	CORR/SCALE XFR PMP			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:04 AM	ATT_XV98301	ALARM	ACK PNT	NONE	COR/SCL INHIB BULK TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:04 AM	ATT_XV98301	ALARM	ACK PNT	NONE	COR/SCL INHIB BULK TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:04 AM	ATT_XV98101	ALARM	ACK PNT	NONE	ASPHALTENE INHIB BULK TK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:04 AM	ATT_XV98101	ALARM	ACK PNT	NONE	ASPHALTENE INHIB BULK TK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:04 AM	ATT_XV98351	ALARM	ACK PNT	NONE	COR/SCL INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:04 AM	ATT_XV98351	ALARM	ACK PNT	NONE	COR/SCL INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:04 AM	ATT_XV98151	ALARM	ACK PNT	NONE	ASPHALTENE INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:04 AM	ATT_XV98151	ALARM	ACK PNT	NONE	ASPHALTENE INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:04 AM	ATT_PXT98361	ALARM	ACK PNT	NONE	ASPHALT INJ PMP 1 DISCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:04 AM	ATT_PXT98361	ALARM	ACK PNT	NONE	ASPHALT INJ PMP 1 DISCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:04 AM	ATT_PXT98311	ALARM	ACK PNT	NONE	COR/SCL INHIB PMP DISCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:04 AM	ATT_PXT98311	ALARM	ACK PNT	NONE	COR/SCL INHIB PMP DISCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:04 AM	ATT_PXT98111	ALARM	ACK PNT	NONE	ASPHALT INJ PMP 2 DSCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:04 AM	ATT_PXT98111	ALARM	ACK PNT	NONE	ASPHALT INJ PMP 2 DSCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:04 AM	ATT_PXT98161	ALARM	ACK PNT	NONE	COR/SCL INHIB PMP 2 DSCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:04 AM	ATT_PXT98161	ALARM	ACK PNT	NONE	COR/SCL INHIB PMP 2 DSCH			HIGH LEVEL SUBSEA C~

BPEP_ABB_04125310- ..xls - "Event Journal" Sheet

XOV Open	DATE	TIME	TAGNAME	CONDITON		PRIORITY	DESCRIPTION	TRIP VALUE	UNITS	
	7-Jan-08	1:25:04 AM	ATT_LXT98351	ALARM	ACK PNT	NONE	COR/SCL INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:04 AM	ATT_LXT98351	ALARM	ACK PNT	NONE	COR/SCL INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:04 AM	ATT_LXT98151	ALARM	ACK PNT	NONE	ASPHALTENE INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:04 AM	ATT_LXT98151	ALARM	ACK PNT	NONE	ASPHALTENE INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:04 AM	ATT_LXT98301	ALARM	ACK PNT	NONE	COR/SCL INHIB BULK TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:04 AM	ATT_LXT98301	ALARM	ACK PNT	NONE	COR/SCL INHIB BULK TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:04 AM	ATT_LXT98101	ALARM	ACK PNT	NONE	ASPHALTENE INHIB BULK TK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:04 AM	ATT_LXT98101	ALARM	ACK PNT	NONE	ASPHALTENE INHIB BULK TK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:04 AM	ATT_HS984AB_RUN_CMD	ALARM	ACK PNT	NONE	CORR/SCALE XFR PMP			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:04 AM	ATT_HS984AB_RUN_CMD	ALARM	ACK PNT	NONE	CORR/SCALE XFR PMP			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:04 AM	ATT_HS982AB_RUN_CMD	ALARM	ACK PNT	NONE	ASPHLTNE XFR PMP			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:04 AM	ATT_HS982AB_RUN_CMD	ALARM	ACK PNT	NONE	ASPHLTNE XFR PMP			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:04 AM	ATT_HS982AB_RUN_CMD	ALARM	ACK PNT	NONE	ASPHLTNE XFR PMP			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:04 AM	ATT_HS984AB_RUN_CMD	ALARM	ACK PNT	NONE	CORR/SCALE XFR PMP			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:04 AM	ATT_XV98301	ALARM	ACK PNT	NONE	COR/SCL INHIB BULK TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:04 AM	ATT_XV98301	ALARM	ACK PNT	NONE	COR/SCL INHIB BULK TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:04 AM	ATT_XV98101	ALARM	ACK PNT	NONE	ASPHALTENE INHIB BULK TK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:04 AM	ATT_XV98101	ALARM	ACK PNT	NONE	ASPHALTENE INHIB BULK TK			HIGH LEVEL SUBSEA C~

BPEP_ABB_04125310- xls - "Event Journal" Sheet

XOV Open	DATE	TIME	TAGNAME	CONDITON		PRIORITY	DESCRIPTION	TRIP VALUE	UNITS	
	7-Jan-08	1:25:05 AM	ATT_XV98351	ALARM	ACK PNT	NONE	COR/SCL INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:05 AM	ATT_XV98351	ALARM	ACK PNT	NONE	COR/SCL INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:05 AM	ATT_XV98151	ALARM	ACK PNT	NONE	ASPHALTENE INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:05 AM	ATT_XV98151	ALARM	ACK PNT	NONE	ASPHALTENE INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:05 AM	ATT_PXT98361	ALARM	ACK PNT	NONE	ASPHALT INJ PMP 1 DISCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:05 AM	ATT_PXT98361	ALARM	ACK PNT	NONE	ASPHALT INJ PMP 1 DISCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:05 AM	ATT_PXT98311	ALARM	ACK PNT	NONE	COR/SCL INHIB PMP DISCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:05 AM	ATT_PXT98311	ALARM	ACK PNT	NONE	COR/SCL INHIB PMP DISCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:05 AM	ATT_PXT98111	ALARM	ACK PNT	NONE	ASPHALT INJ PMP 2 DSCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:05 AM	ATT_PXT98111	ALARM	ACK PNT	NONE	ASPHALT INJ PMP 2 DSCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:05 AM	ATT_PXT98161	ALARM	ACK PNT	NONE	COR/SCL INHIB PMP 2 DSCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:05 AM	ATT_PXT98161	ALARM	ACK PNT	NONE	COR/SCL INHIB PMP 2 DSCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:05 AM	ATT_LXT98351	ALARM	ACK PNT	NONE	COR/SCL INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:05 AM	ATT_LXT98351	ALARM	ACK PNT	NONE	COR/SCL INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:05 AM	ATT_LXT98151	ALARM	ACK PNT	NONE	ASPHALTENE INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:05 AM	ATT_LXT98151	ALARM	ACK PNT	NONE	ASPHALTENE INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:05 AM	ATT_LXT98301	ALARM	ACK PNT	NONE	COR/SCL INHIB BULK TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:05 AM	ATT_LXT98301	ALARM	ACK PNT	NONE	COR/SCL INHIB BULK TANK			HIGH LEVEL SUBSEA C~

BPEP_ABB_04125310 .xls - "Event Journal" Sheet

XOV Open	DATE	TIME	TAGNAME	CONDITON	ACK	PRIORITY	DESCRIPTION	TRIP VALUE	UNITS	
	7-Jan-08	1:25:05 AM	ATT_LXT98101	ALARM	ACK PNT	NONE	ASPHALTENE INHIB BULK TK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:05 AM	ATT_LXT98101	ALARM	ACK PNT	NONE	ASPHALTENE INHIB BULK TK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:05 AM	ATT_HS984AB_RUN_CMD	ALARM	ACK PNT	NONE	CORR/SCALE XFR PMP			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:05 AM	ATT_HS984AB_RUN_CMD	ALARM	ACK PNT	NONE	CORR/SCALE XFR PMP			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:05 AM	ATT_HS982AB_RUN_CMD	ALARM	ACK PNT	NONE	ASPHLTNE XFR PMP			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:05 AM	ATT_HS982AB_RUN_CMD	ALARM	ACK PNT	NONE	ASPHLTNE XFR PMP			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:05 AM	ATT_HS982AB_RUN_CMD	ALARM	ACK PNT	NONE	ASPHLTNE XFR PMP			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:05 AM	ATT_HS984AB_RUN_CMD	ALARM	ACK PNT	NONE	CORR/SCALE XFR PMP			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:05 AM	ATT_XV98301	ALARM	ACK PNT	NONE	COR/SCL INHIB BULK TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:05 AM	ATT_XV98301	ALARM	ACK PNT	NONE	COR/SCL INHIB BULK TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:05 AM	ATT_XV98101	ALARM	ACK PNT	NONE	ASPHALTENE INHIB BULK TK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:05 AM	ATT_XV98101	ALARM	ACK PNT	NONE	ASPHALTENE INHIB BULK TK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:05 AM	ATT_XV98351	ALARM	ACK PNT	NONE	COR/SCL INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:05 AM	ATT_XV98351	ALARM	ACK PNT	NONE	COR/SCL INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:05 AM	ATT_XV98151	ALARM	ACK PNT	NONE	ASPHALTENE INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:05 AM	ATT_XV98151	ALARM	ACK PNT	NONE	ASPHALTENE INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:05 AM	ATT_PXT98361	ALARM	ACK PNT	NONE	ASPHALT INJ PMP 1 DISCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:05 AM	ATT_PXT98361	ALARM	ACK PNT	NONE	ASPHALT INJ PMP 1 DISCH			HIGH LEVEL SUBSEA C~

BPEP_ABB_04125310- xls - "Event Journal" Sheet

XOV Open	DATE	TIME	TAGNAME	CONDITION		PRIORITY	DESCRIPTION	TRIP VALUE	UNITS	
	7-Jan-08	1:25:05 AM	ATT_PXT98311	ALARM	ACK PNT	NONE	COR/SCL INHIB PMP DISCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:05 AM	ATT_PXT98311	ALARM	ACK PNT	NONE	COR/SCL INHIB PMP DISCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:05 AM	ATT_PXT98111	ALARM	ACK PNT	NONE	ASPHALT INJ PMP 2 DSCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:05 AM	ATT_PXT98111	ALARM	ACK PNT	NONE	ASPHALT INJ PMP 2 DSCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:05 AM	ATT_PXT98161	ALARM	ACK PNT	NONE	COR/SCL INHIB PMP 2 DSCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:05 AM	ATT_PXT98161	ALARM	ACK PNT	NONE	COR/SCL INHIB PMP 2 DSCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:05 AM	ATT_LXT98351	ALARM	ACK PNT	NONE	COR/SCL INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:05 AM	ATT_LXT98351	ALARM	ACK PNT	NONE	COR/SCL INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:06 AM	ATT_LXT98151	ALARM	ACK PNT	NONE	ASPHALTENE INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:06 AM	ATT_LXT98151	ALARM	ACK PNT	NONE	ASPHALTENE INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:06 AM	ATT_LXT98301	ALARM	ACK PNT	NONE	COR/SCL INHIB BULK TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:06 AM	ATT_LXT98301	ALARM	ACK PNT	NONE	COR/SCL INHIB BULK TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:06 AM	ATT_LXT98101	ALARM	ACK PNT	NONE	ASPHALTENE INHIB BULK TK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:06 AM	ATT_LXT98101	ALARM	ACK PNT	NONE	ASPHALTENE INHIB BULK TK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:06 AM	ATT_HS984AB_RUN_CMD	ALARM	ACK PNT	NONE	CORR/SCALE XFR PMP			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:06 AM	ATT_HS984AB_RUN_CMD	ALARM	ACK PNT	NONE	CORR/SCALE XFR PMP			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:06 AM	ATT_HS982AB_RUN_CMD	ALARM	ACK PNT	NONE	ASPHLTNE XFR PMP			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:06 AM	ATT_HS982AB_RUN_CMD	ALARM	ACK PNT	NONE	ASPHLTNE XFR PMP			HIGH LEVEL SUBSEA C~

BPEP_ABB_04125310-..xls - "Event Journal" Sheet

XOV Open	DATE	TIME	TAGNAME	CONDITON		PRIORITY	DESCRIPTION	TRIP VALUE	UNITS	
	7-Jan-08	1:25:06 AM	ATT_HS982AB_RUN_CMD	ALARM	ACK PNT	NONE	ASPHLTNE XFR PMP			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:06 AM	ATT_HS984AB_RUN_CMD	ALARM	ACK PNT	NONE	CORR/SCALE XFR PMP			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:06 AM	ATT_XV98301	ALARM	ACK PNT	NONE	COR/SCL INHIB BULK TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:06 AM	ATT_XV98301	ALARM	ACK PNT	NONE	COR/SCL INHIB BULK TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:06 AM	ATT_XV98101	ALARM	ACK PNT	NONE	ASPHALTENE INHIB BULK TK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:06 AM	ATT_XV98101	ALARM	ACK PNT	NONE	ASPHALTENE INHIB BULK TK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:06 AM	ATT_XV98351	ALARM	ACK PNT	NONE	COR/SCL INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:06 AM	ATT_XV98351	ALARM	ACK PNT	NONE	COR/SCL INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:06 AM	ATT_XV98151	ALARM	ACK PNT	NONE	ASPHALTENE INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:06 AM	ATT_XV98151	ALARM	ACK PNT	NONE	ASPHALTENE INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:06 AM	ATT_PXT98361	ALARM	ACK PNT	NONE	ASPHALT INJ PMP 1 DISCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:06 AM	ATT_PXT98361	ALARM	ACK PNT	NONE	ASPHALT INJ PMP 1 DISCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:06 AM	ATT_PXT98311	ALARM	ACK PNT	NONE	COR/SCL INHIB PMP DISCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:06 AM	ATT_PXT98311	ALARM	ACK PNT	NONE	COR/SCL INHIB PMP DISCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:06 AM	ATT_PXT98111	ALARM	ACK PNT	NONE	ASPHALT INJ PMP 2 DSCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:06 AM	ATT_PXT98111	ALARM	ACK PNT	NONE	ASPHALT INJ PMP 2 DSCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:06 AM	ATT_PXT98161	ALARM	ACK PNT	NONE	COR/SCL INHIB PMP 2 DSCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:06 AM	ATT_PXT98161	ALARM	ACK PNT	NONE	COR/SCL INHIB PMP 2 DSCH			HIGH LEVEL SUBSEA C~

BPEP_ABB_04125310 .xls - "Event Journal" Sheet

XOV Open	DATE	TIME	TAGNAME	CONDITON	ACK	PRIORITY	DESCRIPTION	TRIP VALUE	UNITS	
	7-Jan-08	1:25:06 AM	ATT_LXT98351	ALARM	ACK PNT	NONE	COR/SCL INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:06 AM	ATT_LXT98351	ALARM	ACK PNT	NONE	COR/SCL INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:06 AM	ATT_LXT98151	ALARM	ACK PNT	NONE	ASPHALTENE INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:06 AM	ATT_LXT98151	ALARM	ACK PNT	NONE	ASPHALTENE INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:06 AM	ATT_LXT98301	ALARM	ACK PNT	NONE	COR/SCL INHIB BULK TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:06 AM	ATT_LXT98301	ALARM	ACK PNT	NONE	COR/SCL INHIB BULK TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:06 AM	ATT_LXT98101	ALARM	ACK PNT	NONE	ASPHALTENE INHIB BULK TK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:06 AM	ATT_LXT98101	ALARM	ACK PNT	NONE	ASPHALTENE INHIB BULK TK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:06 AM	ATT_HS984AB_RUN_CMD	ALARM	ACK PNT	NONE	CORR/SCALE XFR PMP			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:06 AM	ATT_HS984AB_RUN_CMD	ALARM	ACK PNT	NONE	CORR/SCALE XFR PMP			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:06 AM	ATT_HS982AB_RUN_CMD	ALARM	ACK PNT	NONE	ASPHLTNE XFR PMP			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:06 AM	ATT_HS982AB_RUN_CMD	ALARM	ACK PNT	NONE	ASPHLTNE XFR PMP			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:07 AM	ATT_HS982AB_RUN_CMD	ALARM	ACK PNT	NONE	ASPHLTNE XFR PMP			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:07 AM	ATT_HS984AB_RUN_CMD	ALARM	ACK PNT	NONE	CORR/SCALE XFR PMP			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:07 AM	ATT_XV98301	ALARM	ACK PNT	NONE	COR/SCL INHIB BULK TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:07 AM	ATT_XV98301	ALARM	ACK PNT	NONE	COR/SCL INHIB BULK TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:07 AM	ATT_XV98101	ALARM	ACK PNT	NONE	ASPHALTENE INHIB BULK TK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:07 AM	ATT_XV98101	ALARM	ACK PNT	NONE	ASPHALTENE INHIB BULK TK			HIGH LEVEL SUBSEA C~

BPEP_ABB_04125310-.xls - "Event Journal" Sheet

XOV Open	DATE	TIME	TAGNAME	CONDITON		PRIORITY	DESCRIPTION	TRIP VALUE	UNITS	
	7-Jan-08	1:25:07 AM	ATT_XV98351	ALARM	ACK PNT	NONE	COR/SCL INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:07 AM	ATT_XV98351	ALARM	ACK PNT	NONE	COR/SCL INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:07 AM	ATT_XV98151	ALARM	ACK PNT	NONE	ASPHALTENE INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:07 AM	ATT_XV98151	ALARM	ACK PNT	NONE	ASPHALTENE INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:07 AM	ATT_PXT98361	ALARM	ACK PNT	NONE	ASPHALT INJ PMP 1 DISCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:07 AM	ATT_PXT98361	ALARM	ACK PNT	NONE	ASPHALT INJ PMP 1 DISCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:07 AM	ATT_PXT98311	ALARM	ACK PNT	NONE	COR/SCL INHIB PMP DISCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:07 AM	ATT_PXT98311	ALARM	ACK PNT	NONE	COR/SCL INHIB PMP DISCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:07 AM	ATT_PXT98111	ALARM	ACK PNT	NONE	ASPHALT INJ PMP 2 DSCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:07 AM	ATT_PXT98111	ALARM	ACK PNT	NONE	ASPHALT INJ PMP 2 DSCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:07 AM	ATT_PXT98161	ALARM	ACK PNT	NONE	COR/SCL INHIB PMP 2 DSCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:07 AM	ATT_PXT98161	ALARM	ACK PNT	NONE	COR/SCL INHIB PMP 2 DSCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:07 AM	ATT_LXT98351	ALARM	ACK PNT	NONE	COR/SCL INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:07 AM	ATT_LXT98351	ALARM	ACK PNT	NONE	COR/SCL INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:07 AM	ATT_LXT98151	ALARM	ACK PNT	NONE	ASPHALTENE INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:07 AM	ATT_LXT98151	ALARM	ACK PNT	NONE	ASPHALTENE INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:07 AM	ATT_LXT98301	ALARM	ACK PNT	NONE	COR/SCL INHIB BULK TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:07 AM	ATT_LXT98301	ALARM	ACK PNT	NONE	COR/SCL INHIB BULK TANK			HIGH LEVEL SUBSEA C~

XOV Open	DATE	TIME	TAGNAME	CONDITON		PRIORITY	DESCRIPTION	TRIP VALUE	UNITS	
	7-Jan-08	1:25:07 AM	ATT_LXT98101	ALARM	ACK PNT	NONE	ASPHALTENE INHIB BULK TK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:07 AM	ATT_LXT98101	ALARM	ACK PNT	NONE	ASPHALTENE INHIB BULK TK			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:07 AM	ATT_HS984AB_RUN_CMD	ALARM	ACK PNT	NONE	CORR/SCALE XFR PMP			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:07 AM	ATT_HS984AB_RUN_CMD	ALARM	ACK PNT	NONE	CORR/SCALE XFR PMP			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:07 AM	ATT_HS982AB_RUN_CMD	ALARM	ACK PNT	NONE	ASPHLTNE XFR PMP			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:07 AM	ATT_HS982AB_RUN_CMD	ALARM	ACK PNT	NONE	ASPHLTNE XFR PMP			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:07 AM	ATT_HS982AB_RUN_CMD	ALARM	ACK PNT	NONE	ASPHLTNE XFR PMP			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:25:13 AM	ATT_PXI98511	PVLO	ACK	NONE	STARTUP MEOH INJ PMP DIS	6495.84	PSI	HIGH LEVEL SUBSEA C~
	7-Jan-08	1:26:28 AM	ATS_XV12414_CNTRL	CHANGE		NONE	OP	CLOSE		HIGH LEVEL SUBSEA C~
	7-Jan-08	1:26:29 AM	ATS_XV12414_OP	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
	7-Jan-08	1:26:32 AM	ATS_XV12414_INTLK	ALARM		J 00	DC-124 ANNULUS MASTER VALVE (AMV)	INTLK		
	7-Jan-08	1:26:53 AM	ATS_XV12416_CNTRL	CHANGE		NONE	OP	CLOSE		HIGH LEVEL SUBSEA C~
	7-Jan-08	1:26:53 AM	ATS_XV12416_OP	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	1:27:09 AM	ATS_PI12433	PVHI		H 00	DC-124 ANNULUS PRESSURE	4318.4	PSIA	
OPEN	7-Jan-08	1:27:20 AM	ATS_XV12412_CNTRL	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	1:27:21 AM	ATS_XV12412_OP	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	1:27:52 AM	ATS_PI12433	PVHI	ACK	NONE	DC-124 ANNULUS PRESSURE	4318.4	PSIA	HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	1:27:52 AM	ATS_PI12433	ALARM	ACK PNT	NONE	DC-124 ANNULUS PRESSURE			HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	1:29:21 AM	ATT_PXI98511	PVLO	ACK	NONE	STARTUP MEOH INJ PMP DIS	6510.95	PSI	HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	1:29:59 AM	ATS_XV12412_CNTRL	CHANGE		NONE	OP	CLOSE		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	1:30:12 AM	ATS_XV12412_OP	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	1:30:19 AM	ATS_XV12412_BYP	CHANGE		NONE	OP	NORMAL		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	1:30:19 AM	ATS_XV12412_BYP	CHANGE		J 00	DC-124 CROSSOVER VALVE (XOV)	NORMAL		
OPEN	7-Jan-08	1:31:14 AM	ATS_PI12433	PVHI	OK	H 00	DC-124 ANNULUS PRESSURE	3743.25	PSIA	
OPEN	7-Jan-08	1:31:31 AM	ATS_XV12416_CNTRL	CHANGE		NONE	OP	CLOSE		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	1:31:32 AM	ATS_XV12416_OP	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	1:31:37 AM	ATS_XV12412_INTLK	ALARM		J 00	DC-124 CROSSOVER VALVE (XOV)	INTLK		
OPEN	7-Jan-08	1:31:52 AM	ATS_XV12412_INTLK	ALARM	OK	J 00	DC-124 CROSSOVER VALVE (XOV)	NORMAL		
OPEN	7-Jan-08	1:32:01 AM	ATS_XV12416_CNTRL	CHANGE		NONE	OP	CLOSE		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	1:32:02 AM	ATS_XV12416_OP	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	1:32:06 AM	ATS_XV12412_INTLK	ALARM		J 00	DC-124 CROSSOVER VALVE (XOV)	INTLK		
OPEN	7-Jan-08	1:32:22 AM	ATS_XV12412_INTLK	ALARM	OK	J 00	DC-124 CROSSOVER VALVE (XOV)	NORMAL		
OPEN	7-Jan-08	1:32:28 AM	ATS_XV12416_BYP	CHANGE		NONE	OP	NORMAL		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	1:32:28 AM	ATS_XV12416_BYP	CHANGE		J 00	DC-124 DOWNSTREAM CROSSOVER VALVE (DXV)	NORMAL		

XOV Open	DATE	TIME	TAGNAME	CONDITON		PRIORITY	DESCRIPTION	TRIP VALUE	UNITS	
OPEN	7-Jan-08	1:32:29 AM	ATS_XV12416_INTLK	ALARM		J 00	DC-124 DOWNSTREAM CROSSOVER VALVE (DXV)	INTLK		
OPEN	7-Jan-08	1:32:34 AM	ATS_XV12413_CNTRL	CHANGE		NONE	OP	CLOSE		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	1:32:34 AM	ATS_XV12413_OP	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	1:32:54 AM	ATS_XV12414_INTLK	ALARM	OK	J 00	DC-124 ANNULUS MASTER VALVE (AMV)	NORMAL		
OPEN	7-Jan-08	1:32:54 AM	ATS_XV12416_INTLK	ALARM	OK	J 00	DC-124 DOWNSTREAM CROSSOVER VALVE (DXV)	NORMAL		
OPEN	7-Jan-08	1:32:58 AM	ATS_XV12413_BYP	CHANGE		NONE	OP	NORMAL		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	1:32:58 AM	ATS_XV12413_BYP	CHANGE		J 00	DC-124 ANNULUS WING VALVE (AWV)	NORMAL		
OPEN	7-Jan-08	1:33:04 AM	ATS_XV12414_CNTRL	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	1:33:04 AM	ATS_XV12414_OP	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
	7-Jan-08	1:33:08 AM	ATS_XV12412_INTLK	ALARM		J 00	DC-124 CROSSOVER VALVE (XOV)	INTLK		
	7-Jan-08	1:33:08 AM	ATS_XV12413_INTLK	ALARM		J 00	DC-124 ANNULUS WING VALVE (AWV)	INTLK		
	7-Jan-08	1:33:08 AM	ATS_XV12416_INTLK	ALARM		J 00	DC-124 DOWNSTREAM CROSSOVER VALVE (DXV)	INTLK		
	7-Jan-08	1:36:04 AM	ATS_TT12436_STAT	ALARM		H 00	DC-124 CHOKE UPSTREAM TEMPERATURE STATUS	PV-A		
	7-Jan-08	1:36:06 AM	ATS_TT12436_STAT	ALARM	OK	H 00	DC-124 CHOKE UPSTREAM TEMPERATURE STATUS	NORMAL		
	7-Jan-08	1:38:09 AM	ATS_TT12436_STAT	ALARM	ACK	NONE	DC-124 CHOKE UPSTREAM TEMPERATURE STATUS	PV-A		HIGH LEVEL SUBSEA C~
	7-Jan-08	1:38:09 AM	ATS_TT12436_STAT	ALARM	ACK PNT	NONE	DC-124 CHOKE UPSTREAM TEMPERATURE STATUS			HIGH LEVEL SUBSEA C~
	7-Jan-08	1:45:45 AM	ATS_TT12436_STAT	ALARM		H 00	DC-124 CHOKE UPSTREAM TEMPERATURE STATUS	PV-A		
	7-Jan-08	1:45:45 AM	ATS_TT12438_STAT	ALARM		H 00	DC-124 CHOKE DOWNSTREAM TEMPERATURE STATUS	PV-A		
	7-Jan-08	1:45:45 AM	ATS_ZT12447_STAT	ALARM		H 00	DC-124 CHOKE POSITION (LVDT) STATUS	PV-A		
	7-Jan-08	1:45:45 AM	ATS_PT12461_STAT	ALARM		H 00	DC-124 LP SUPPLY PRESSURE STATUS	PV-A		
	7-Jan-08	1:45:45 AM	ATS_PT12462_STAT	ALARM		H 00	DC-124 HP SUPPLY PRESSURE STATUS	PV-A		
	7-Jan-08	1:45:45 AM	ATS_PT12463_STAT	ALARM		H 00	DC-124 LP RETURN PRESSURE STATUS	PV-A		
	7-Jan-08	1:45:45 AM	ATS_PT12464_STAT	ALARM		H 00	DC-124 HP RETURN PRESSURE STATUS	PV-A		
	7-Jan-08	1:45:45 AM	ATS_ET12465A_STAT	ALARM		H 00	DC-124 SEM SUPPLY VOLTAGE SEM A STATUS	PV_BAD		
	7-Jan-08	1:45:45 AM	ATS_PT12433_STAT	ALARM		H 00	DC-124 ANNULUS PRESSURE SEM A STATUS	PV-A		
	7-Jan-08	1:45:45 AM	ATS_PT12435_STAT	ALARM		H 00	DC-124 CHOKE UPSTREAM PRESSURE SEM A STATUS	PV-A		
	7-Jan-08	1:45:45 AM	ATS_PT12437_STAT	ALARM		H 00	DC-124 CHOKE DOWNSTREAM PRESSURE SEM A STATUS	PV-A		
	7-Jan-08	1:45:45 AM	ATS_PT12439_STAT	ALARM		H 00	DC-124 CROWN PLUG PRESSURE SEM A STATUS	PV-A		
	7-Jan-08	1:45:49 AM	ATS_TT12436_STAT	ALARM	OK	H 00	DC-124 CHOKE UPSTREAM TEMPERATURE STATUS	NORMAL		
	7-Jan-08	1:45:49 AM	ATS_TT12438_STAT	ALARM	OK	H 00	DC-124 CHOKE DOWNSTREAM TEMPERATURE STATUS	NORMAL		
	7-Jan-08	1:45:49 AM	ATS_ZT12447_STAT	ALARM	OK	H 00	DC-124 CHOKE POSITION (LVDT) STATUS	NORMAL		
	7-Jan-08	1:45:49 AM	ATS_PT12461_STAT	ALARM	OK	H 00	DC-124 LP SUPPLY PRESSURE STATUS	NORMAL		
	7-Jan-08	1:45:49 AM	ATS_PT12462_STAT	ALARM	OK	H 00	DC-124 HP SUPPLY PRESSURE STATUS	NORMAL		
	7-Jan-08	1:45:49 AM	ATS_PT12463_STAT	ALARM	OK	H 00	DC-124 LP RETURN PRESSURE STATUS	NORMAL		
	7-Jan-08	1:45:49 AM	ATS_PT12464_STAT	ALARM	OK	H 00	DC-124 HP RETURN PRESSURE STATUS	NORMAL		

BPEP_ABB_04125310 .xls - "Event Journal" Sheet

XOV Open	DATE	TIME	TAGNAME	CONDITON		PRIORITY	DESCRIPTION	TRIP VALUE	UNITS	
	7-Jan-08	1:45:49 AM	ATS_ET12465A_STAT	ALARM	OK	H 00	DC-124 SEM SUPPLY VOLTAGE SEM A STATUS	NORMAL		
	7-Jan-08	1:45:49 AM	ATS_PT12433_STAT	ALARM	OK	H 00	DC-124 ANNULUS PRESSURE SEM A STATUS	NORMAL		
	7-Jan-08	1:45:49 AM	ATS_PT12435_STAT	ALARM	OK	H 00	DC-124 CHOKE UPSTREAM PRESSURE SEM A STATUS	NORMAL		
	7-Jan-08	1:45:49 AM	ATS_PT12437_STAT	ALARM	OK	H 00	DC-124 CHOKE DOWNSTREAM PRESSURE SEM A STATUS	NORMAL		
	7-Jan-08	1:45:49 AM	ATS_PT12439_STAT	ALARM	OK	H 00	DC-124 CROWN PLUG PRESSURE SEM A STATUS	NORMAL		
	7-Jan-08	2:00:26 AM	Event Archiving	EVTARC		J 00	Event Archive Initiated			
	7-Jan-08	2:01:26 AM	ATS_PT12433_STAT	ALARM	ACK	NONE	DC-124 ANNULUS PRESSURE SEM A STATUS	PV-A		HIGH LEVEL SUBSEA C~
	7-Jan-08	2:01:26 AM	ATS_PT12433_STAT	ALARM	ACK PNT	NONE	DC-124 ANNULUS PRESSURE SEM A STATUS			HIGH LEVEL SUBSEA C~
	7-Jan-08	2:01:26 AM	ATS_PT12439_STAT	ALARM	ACK	NONE	DC-124 CROWN PLUG PRESSURE SEM A STATUS	PV-A		HIGH LEVEL SUBSEA C~
	7-Jan-08	2:01:26 AM	ATS_PT12439_STAT	ALARM	ACK PNT	NONE	DC-124 CROWN PLUG PRESSURE SEM A STATUS			HIGH LEVEL SUBSEA C~
	7-Jan-08	2:01:26 AM	ATS_PT12435_STAT	ALARM	ACK	NONE	DC-124 CHOKE UPSTREAM PRESSURE SEM A STATUS	PV-A		HIGH LEVEL SUBSEA C~
	7-Jan-08	2:01:26 AM	ATS_PT12435_STAT	ALARM	ACK PNT	NONE	DC-124 CHOKE UPSTREAM PRESSURE SEM A STATUS			HIGH LEVEL SUBSEA C~
	7-Jan-08	2:01:26 AM	ATS_TT12436_STAT	ALARM	ACK	NONE	DC-124 CHOKE UPSTREAM TEMPERATURE STATUS	PV-A		HIGH LEVEL SUBSEA C~
	7-Jan-08	2:01:26 AM	ATS_TT12436_STAT	ALARM	ACK PNT	NONE	DC-124 CHOKE UPSTREAM TEMPERATURE STATUS			HIGH LEVEL SUBSEA C~
	7-Jan-08	2:01:26 AM	ATS_TT12438_STAT	ALARM	ACK	NONE	DC-124 CHOKE DOWNSTREAM TEMPERATURE STATUS	PV-A		HIGH LEVEL SUBSEA C~
	7-Jan-08	2:01:26 AM	ATS_TT12438_STAT	ALARM	ACK PNT	NONE	DC-124 CHOKE DOWNSTREAM TEMPERATURE STATUS			HIGH LEVEL SUBSEA C~
	7-Jan-08	2:01:26 AM	ATS_PT12437_STAT	ALARM	ACK	NONE	DC-124 CHOKE DOWNSTREAM PRESSURE SEM A STATUS	PV-A		HIGH LEVEL SUBSEA C~
	7-Jan-08	2:01:26 AM	ATS_PT12437_STAT	ALARM	ACK PNT	NONE	DC-124 CHOKE DOWNSTREAM PRESSURE SEM A STATUS			HIGH LEVEL SUBSEA C~
	7-Jan-08	2:01:26 AM	ATS_ZT12447_STAT	ALARM	ACK	NONE	DC-124 CHOKE POSITION (LVDT) STATUS	PV-A		HIGH LEVEL SUBSEA C~
	7-Jan-08	2:01:26 AM	ATS_ZT12447_STAT	ALARM	ACK PNT	NONE	DC-124 CHOKE POSITION (LVDT) STATUS			HIGH LEVEL SUBSEA C~
	7-Jan-08	2:01:26 AM	ATS_PT12461_STAT	ALARM	ACK	NONE	DC-124 LP SUPPLY PRESSURE STATUS	PV-A		HIGH LEVEL SUBSEA C~
	7-Jan-08	2:01:26 AM	ATS_PT12461_STAT	ALARM	ACK PNT	NONE	DC-124 LP SUPPLY PRESSURE STATUS			HIGH LEVEL SUBSEA C~
	7-Jan-08	2:01:26 AM	ATS_PT12463_STAT	ALARM	ACK	NONE	DC-124 LP RETURN PRESSURE STATUS	PV-A		HIGH LEVEL SUBSEA C~
	7-Jan-08	2:01:26 AM	ATS_PT12463_STAT	ALARM	ACK PNT	NONE	DC-124 LP RETURN PRESSURE STATUS			HIGH LEVEL SUBSEA C~
	7-Jan-08	2:01:26 AM	ATS_PT12462_STAT	ALARM	ACK	NONE	DC-124 HP SUPPLY PRESSURE STATUS	PV-A		HIGH LEVEL SUBSEA C~

XOV Open	DATE	TIME	TAGNAME	CONDITON		PRIORITY	DESCRIPTION	TRIP VALUE	UNITS	
	7-Jan-08	2:01:26 AM	ATS_PT12462_STAT	ALARM	ACK PNT	NONE	DC-124 HP SUPPLY PRESSURE STATUS			HIGH LEVEL SUBSEA C~
	7-Jan-08	2:01:26 AM	ATS_PT12464_STAT	ALARM	ACK	NONE	DC-124 HP RETURN PRESSURE STATUS	PV-A		HIGH LEVEL SUBSEA C~
	7-Jan-08	2:01:26 AM	ATS_PT12464_STAT	ALARM	ACK PNT	NONE	DC-124 HP RETURN PRESSURE STATUS			HIGH LEVEL SUBSEA C~
	7-Jan-08	2:01:26 AM	ATS_ET12465A_STAT	ALARM	ACK	NONE	DC-124 SEM SUPPLY VOLTAGE SEM A STATUS	PV_BAD		HIGH LEVEL SUBSEA C~
	7-Jan-08	2:01:26 AM	ATS_ET12465A_STAT	ALARM	ACK PNT	NONE	DC-124 SEM SUPPLY VOLTAGE SEM A STATUS			HIGH LEVEL SUBSEA C~
	7-Jan-08	2:03:51 AM	Event Archiving	EVTARC		J 00	Event Archive successful			
	7-Jan-08	2:07:55 AM	ATT_PXL45321_BYP	CHANGE		NONE	OP	B_BYP		HIGH LEVEL SUBSEA C~
	7-Jan-08	2:10:03 AM	ATS_ET12465A_STAT	ALARM		H 00	DC-124 SEM SUPPLY VOLTAGE SEM A STATUS	PV_BAD		
	7-Jan-08	2:10:28 AM	ATS_ET12465A_STAT	ALARM	OK	H 00	DC-124 SEM SUPPLY VOLTAGE SEM A STATUS	NORMAL		
	7-Jan-08	2:11:24 AM	ATS_ET12465A_STAT	ALARM	ACK	NONE	DC-124 SEM SUPPLY VOLTAGE SEM A STATUS	PV_BAD		HIGH LEVEL SUBSEA C~
	7-Jan-08	2:37:49 AM	ATS_XV12416_CNTRL	ALARM		H 00	DC-124 DOWNSTREAM CROSSOVER VALVE (DXV)	BAD		
	7-Jan-08	2:37:49 AM	ATS_XV12416_TO	ALARM		J 00	DC-124 DOWNSTREAM CROSSOVER VALVE (DXV)	TIMEOUT		
	7-Jan-08	2:38:09 AM	ATS_XV12413_CNTRL	ALARM		H 00	DC-124 ANNULUS WING VALVE (AWV)	BAD		
	7-Jan-08	2:38:09 AM	ATS_XV12413_TO	ALARM		J 00	DC-124 ANNULUS WING VALVE (AWV)	TIMEOUT		
	7-Jan-08	2:39:50 AM	ATS_XV12414_CNTRL	ALARM		H 00	DC-124 ANNULUS MASTER VALVE (AMV)	BAD		
	7-Jan-08	2:39:50 AM	ATS_XV12414_TO	ALARM		J 00	DC-124 ANNULUS MASTER VALVE (AMV)	TIMEOUT		
	7-Jan-08	2:39:50 AM	ATS_XV12414_INTLK	ALARM		J 00	DC-124 ANNULUS MASTER VALVE (AMV)	INTLK		
OPEN	7-Jan-08	2:40:20 AM	ATS_XV12416_CNTRL	ALARM	OK	H 00	DC-124 DOWNSTREAM CROSSOVER VALVE (DXV)	CLOSE		
OPEN	7-Jan-08	2:40:20 AM	ATS_XV12416_TO	ALARM	OK	J 00	DC-124 DOWNSTREAM CROSSOVER VALVE (DXV)	NORMAL		
OPEN	7-Jan-08	2:40:28 AM	ATS_PI12433	PVHI		H 00	DC-124 ANNULUS PRESSURE	5297.11	PSIA	
OPEN	7-Jan-08	2:40:30 AM	ATS_XV12412_CNTRL	ALARM		H 00	DC-124 CROSSOVER VALVE (XOV)	BAD		
OPEN	7-Jan-08	2:40:30 AM	ATS_XV12412_TO	ALARM		J 00	DC-124 CROSSOVER VALVE (XOV)	TIMEOUT		
OPEN	7-Jan-08	2:40:43 AM	ATS_SCU_C1_RC01A_S02_MVI_NOCONN~	ALARM		H 00	RC01A SLOT 02 MVI PROSOFT MODULE NO CONNECTION	FAULT		
OPEN	7-Jan-08	2:40:52 AM	ATS_SCU_C1_RC01A_S02_MVI_NOCONN~	ALARM	ACK	NONE	RC01A SLOT 02 MVI PROSOFT MODULE NO CONNECTION	FAULT		SPCHANGE
OPEN	7-Jan-08	2:41:35 AM	ATS_XV12414_CNTRL	ALARM	OK	H 00	DC-124 ANNULUS MASTER VALVE (AMV)	OPEN		
OPEN	7-Jan-08	2:41:36 AM	ATS_XV12414_CNTRL	ALARM		H 00	DC-124 ANNULUS MASTER VALVE (AMV)	BAD		
OPEN	7-Jan-08	2:44:40 AM	ATS_XV12414_CNTRL	ALARM	ACK	NONE	DC-124 ANNULUS MASTER VALVE (AMV)	BAD		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	2:44:40 AM	ATS_XV12414_CNTRL	ALARM	ACK PNT	NONE	DC-124 ANNULUS MASTER VALVE (AMV)			HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	2:44:40 AM	ATS_XV12416_CNTRL	ALARM	ACK	NONE	DC-124 DOWNSTREAM CROSSOVER VALVE (DXV)	BAD		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	2:44:40 AM	ATS_XV12416_CNTRL	ALARM	ACK PNT	NONE	DC-124 DOWNSTREAM CROSSOVER VALVE (DXV)			HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	2:44:40 AM	ATS_PI12433	PVHI	ACK	NONE	DC-124 ANNULUS PRESSURE	5297.11	PSIA	HIGH LEVEL SUBSEA C~

XOV Open	DATE	TIME	TAGNAME	CONDITON		PRIORITY	DESCRIPTION	TRIP VALUE	UNITS	
OPEN	7-Jan-08	2:44:40 AM	ATS_PI12433	ALARM	ACK PNT	NONE	DC-124 ANNULUS PRESSURE			HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	2:44:41 AM	ATS_XV12412_CNTRL	ALARM	ACK	NONE	DC-124 CROSSOVER VALVE (XOV)	BAD		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	2:44:41 AM	ATS_XV12412_CNTRL	ALARM	ACK PNT	NONE	DC-124 CROSSOVER VALVE (XOV)			HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	2:44:41 AM	ATS_XV12413_CNTRL	ALARM	ACK	NONE	DC-124 ANNULUS WING VALVE (AWV)	BAD		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	2:44:41 AM	ATS_XV12413_CNTRL	ALARM	ACK PNT	NONE	DC-124 ANNULUS WING VALVE (AWV)			HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	2:44:43 AM	ATS_SCU_C1_RC01A_S02_MVI_NOCONN~	ALARM	OK	H 00	RC01A SLOT 02 MVI PROSOFT MODULE NO CONNECTION	NORMAL		
OPEN	7-Jan-08	2:45:16 AM	ATS_XV12412_BYP	CHANGE		NONE	OP	BYPASS		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	2:45:16 AM	ATS_XV12412_BYP	CHANGE		J 00	DC-124 CROSSOVER VALVE (XOV)	BYPASS		
OPEN	7-Jan-08	2:45:16 AM	ATS_XV12412_INTLK	ALARM	OK	J 00	DC-124 CROSSOVER VALVE (XOV)	NORMAL		
OPEN	7-Jan-08	2:45:39 AM	ATS_XV12412_CNTRL	CHANGE		NONE	OP	CLOSE		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	2:45:39 AM	ATS_XV12412_OP	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	2:45:44 AM	ATS_XV12412_CNTRL	ALARM	OK	H 00	DC-124 CROSSOVER VALVE (XOV)	TRAVEL		
OPEN	7-Jan-08	2:45:44 AM	ATS_XV12412_TO	ALARM	OK	J 00	DC-124 CROSSOVER VALVE (XOV)	NORMAL		
OPEN	7-Jan-08	2:47:44 AM	ATS_XV12416_BYP	CHANGE		NONE	OP	BYPASS		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	2:47:44 AM	ATS_XV12416_BYP	CHANGE		J 00	DC-124 DOWNSTREAM CROSSOVER VALVE (DXV)	BYPASS		
OPEN	7-Jan-08	2:47:44 AM	ATS_XV12416_INTLK	ALARM	OK	J 00	DC-124 DOWNSTREAM CROSSOVER VALVE (DXV)	NORMAL		
OPEN	7-Jan-08	2:47:54 AM	ATS_XV12416_CNTRL	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	2:47:55 AM	ATS_XV12416_OP	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	2:47:59 AM	ATS_XV12413_CNTRL	ALARM	OK	H 00	DC-124 ANNULUS WING VALVE (AWV)	CLOSE		
OPEN	7-Jan-08	2:47:59 AM	ATS_XV12413_TO	ALARM	OK	J 00	DC-124 ANNULUS WING VALVE (AWV)	NORMAL		
OPEN	7-Jan-08	2:48:05 AM	ATS_PI12433	PVHI	OK	H 00	DC-124 ANNULUS PRESSURE	2761.36	PSIA	
OPEN	7-Jan-08	2:48:05 AM	ATS_XV12414_BYP	CHANGE		NONE	OP	BYPASS		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	2:48:05 AM	ATS_XV12414_BYP	CHANGE		J 00	DC-124 ANNULUS MASTER VALVE (AMV)	BYPASS		
OPEN	7-Jan-08	2:48:06 AM	ATS_XV12414_INTLK	ALARM	OK	J 00	DC-124 ANNULUS MASTER VALVE (AMV)	NORMAL		
OPEN	7-Jan-08	2:48:09 AM	ATS_XV12414_CNTRL	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	2:48:10 AM	ATS_XV12414_OP	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	2:48:15 AM	ATS_XV12414_CNTRL	ALARM	OK	H 00	DC-124 ANNULUS MASTER VALVE (AMV)	TRAVEL		
OPEN	7-Jan-08	2:48:15 AM	ATS_XV12414_TO	ALARM	OK	J 00	DC-124 ANNULUS MASTER VALVE (AMV)	NORMAL		
OPEN	7-Jan-08	2:49:06 AM	ATS_XV12413_BYP	CHANGE		NONE	OP	BYPASS		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	2:49:07 AM	ATS_XV12413_BYP	CHANGE		J 00	DC-124 ANNULUS WING VALVE (AWV)	BYPASS		
OPEN	7-Jan-08	2:49:07 AM	ATS_XV12413_INTLK	ALARM	OK	J 00	DC-124 ANNULUS WING VALVE (AWV)	NORMAL		
OPEN	7-Jan-08	2:49:10 AM	ATS_XV12413_CNTRL	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	2:49:11 AM	ATS_XV12413_OP	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
	7-Jan-08	2:53:33 AM	ATS_XV12414_CNTRL	CHANGE		NONE	OP	CLOSE		HIGH LEVEL SUBSEA C~
	7-Jan-08	2:53:33 AM	ATS_XV12414_OP	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
	7-Jan-08	2:53:51 AM	ATS_XV12416_CNTRL	CHANGE		NONE	OP	CLOSE		HIGH LEVEL SUBSEA C~
	7-Jan-08	2:53:52 AM	ATS_XV12416_OP	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	2:54:05 AM	ATS_PI12433	PVHI		H 00	DC-124 ANNULUS PRESSURE	4353.35	PSIA	
OPEN	7-Jan-08	2:54:08 AM	ATS_XV12412_CNTRL	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	2:54:15 AM	ATS_XV12412_OP	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	2:54:36 AM	ATS_PI12433	PVHI	ACK	NONE	DC-124 ANNULUS PRESSURE	4353.35	PSIA	HIGH LEVEL SUBSEA C~

XOV Open	DATE	TIME	TAGNAME	CONDITON		PRIORITY	DESCRIPTION	TRIP VALUE	UNITS	
OPEN	7-Jan-08	2:54:36 AM	ATS_PI12433	ALARM	ACK PNT	NONE	DC-124 ANNULUS PRESSURE			HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	2:57:18 AM	ATS_XV12412_CNTRL	CHANGE		NONE	OP	CLOSE		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	2:57:19 AM	ATS_XV12412_OP	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	2:58:24 AM	ATS_PI12433	PVHI	OK	H 00	DC-124 ANNULUS PRESSURE	3765.49	PSIA	
OPEN	7-Jan-08	2:58:49 AM	ATS_XV12413_CNTRL	CHANGE		NONE	OP	CLOSE		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	2:58:50 AM	ATS_XV12413_OP	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	2:59:09 AM	ATS_XV12413_BYP	CHANGE		NONE	OP	NORMAL		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	2:59:09 AM	ATS_XV12413_BYP	CHANGE		J 00	DC-124 ANNULUS WING VALVE (AWV)	NORMAL		
OPEN	7-Jan-08	2:59:15 AM	ATS_XV12412_BYP	CHANGE		NONE	OP	NORMAL		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	2:59:15 AM	ATS_XV12412_BYP	CHANGE		J 00	DC-124 CROSSOVER VALVE (XOV)	NORMAL		
OPEN	7-Jan-08	2:59:21 AM	ATS_XV12416_BYP	CHANGE		J 00	DC-124 DOWNSTREAM CROSSOVER VALVE (DXV)	NORMAL		
OPEN	7-Jan-08	2:59:21 AM	ATS_XV12416_BYP	CHANGE		NONE	OP	NORMAL		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	2:59:29 AM	ATS_XV12414_BYP	CHANGE		NONE	OP	NORMAL		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	2:59:30 AM	ATS_XV12414_BYP	CHANGE		J 00	DC-124 ANNULUS MASTER VALVE (AMV)	NORMAL		
OPEN	7-Jan-08	2:59:38 AM	ATS_XV12414_CNTRL	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	2:59:38 AM	ATS_XV12414_OP	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	2:59:44 AM	ATS_XV12412_INTLK	ALARM		J 00	DC-124 CROSSOVER VALVE (XOV)	INTLK		
OPEN	7-Jan-08	2:59:44 AM	ATS_XV12413_INTLK	ALARM		J 00	DC-124 ANNULUS WING VALVE (AWV)	INTLK		
OPEN	7-Jan-08	2:59:44 AM	ATS_XV12416_INTLK	ALARM		J 00	DC-124 DOWNSTREAM CROSSOVER VALVE (DXV)	INTLK		
	7-Jan-08	3:01:17 AM	ATT_PXI98511	PVLO	ACK	NONE	STARTUP MEOH INJ PMP DIS	6578.48	PSI	HIGH LEVEL SUBSEA C~
	7-Jan-08	3:01:21 AM	ATT_FI45312	PVHIGH	ACK	NONE	MEOH INJ PMPS RECY		GPM	HIGH LEVEL SUBSEA C~
	7-Jan-08	3:13:29 AM	ATS_DC124_SCM_OP	CHANGE		NONE	OP	CANCEL		HIGH LEVEL SUBSEA C~
	7-Jan-08	3:13:29 AM	ATS_DC124_SCM_OP	CHANGE		NONE	Mode	MAN		HIGH LEVEL SUBSEA C~
	7-Jan-08	3:20:30 AM	ATS_XV12416_CNTRL	ALARM		H 00	DC-124 DOWNSTREAM CROSSOVER VALVE (DXV)	BAD		
	7-Jan-08	3:20:30 AM	ATS_XV12416_TO	ALARM		J 00	DC-124 DOWNSTREAM CROSSOVER VALVE (DXV)	TIMEOUT		
	7-Jan-08	3:20:39 AM	ATS_XV12413_CNTRL	ALARM		H 00	DC-124 ANNULUS WING VALVE (AWV)	BAD		
	7-Jan-08	3:20:39 AM	ATS_XV12413_TO	ALARM		J 00	DC-124 ANNULUS WING VALVE (AWV)	TIMEOUT		
	7-Jan-08	3:20:51 AM	ATS_XV12416_CNTRL	ALARM	ACK	NONE	DC-124 DOWNSTREAM CROSSOVER VALVE (DXV)	BAD		HIGH LEVEL SUBSEA C~
	7-Jan-08	3:20:51 AM	ATS_XV12416_CNTRL	ALARM	ACK PNT	NONE	DC-124 DOWNSTREAM CROSSOVER VALVE (DXV)			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:20:51 AM	ATS_XV12413_CNTRL	ALARM	ACK	NONE	DC-124 ANNULUS WING VALVE (AWV)	BAD		HIGH LEVEL SUBSEA C~
	7-Jan-08	3:20:51 AM	ATS_XV12413_CNTRL	ALARM	ACK PNT	NONE	DC-124 ANNULUS WING VALVE (AWV)			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:20:58 AM	ATS_XV12412_BYP	CHANGE		NONE	OP	BYPASS		HIGH LEVEL SUBSEA C~
	7-Jan-08	3:20:58 AM	ATS_XV12412_BYP	CHANGE		J 00	DC-124 CROSSOVER VALVE (XOV)	BYPASS		
	7-Jan-08	3:20:58 AM	ATS_XV12412_INTLK	ALARM	OK	J 00	DC-124 CROSSOVER VALVE (XOV)	NORMAL		
OPEN	7-Jan-08	3:21:29 AM	ATS_XV12414_CNTRL	ALARM		H 00	DC-124 ANNULUS MASTER VALVE (AMV)	BAD		
OPEN	7-Jan-08	3:21:29 AM	ATS_XV12414_TO	ALARM		J 00	DC-124 ANNULUS MASTER VALVE (AMV)	TIMEOUT		
OPEN	7-Jan-08	3:21:29 AM	ATS_XV12414_INTLK	ALARM		J 00	DC-124 ANNULUS MASTER VALVE (AMV)	INTLK		
OPEN	7-Jan-08	3:21:32 AM	ATS_XV12412_CNTRL	CHANGE		NONE	OP	CLOSE		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	3:21:33 AM	ATS_XV12412_OP	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	3:21:34 AM	ATS_XV12412_CNTRL	CHANGE		NONE	OP	CLOSE		HIGH LEVEL SUBSEA C~

XOV Open	DATE	TIME	TAGNAME	CONDITON		PRIORITY	DESCRIPTION	TRIP VALUE	UNITS	
OPEN	7-Jan-08	3:21:35 AM	ATS_XV12412_OP	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	3:21:35 AM	ATS_XV12412_CNTRL	CHANGE		NONE	OP	CLOSE		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	3:21:36 AM	ATS_XV12412_OP	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	3:21:38 AM	ATS_XV12412_CNTRL	CHANGE		NONE	OP	CLOSE		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	3:21:38 AM	ATS_XV12412_OP	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	3:21:39 AM	ATS_XV12416_CNTRL	ALARM	OK	H 00	DC-124 DOWNSTREAM CROSSOVER VALVE (DXV)	CLOSE		
OPEN	7-Jan-08	3:21:39 AM	ATS_XV12416_TO	ALARM	OK	J 00	DC-124 DOWNSTREAM CROSSOVER VALVE (DXV)	NORMAL		
OPEN	7-Jan-08	3:21:43 AM	ATS_PI12433	PVHI		H 00	DC-124 ANNULUS PRESSURE	5278.04	PSIA	
OPEN	7-Jan-08	3:21:45 AM	ATS_XV12414_CNTRL	ALARM	ACK	NONE	DC-124 ANNULUS MASTER VALVE (AMV)	BAD		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	3:21:45 AM	ATS_XV12414_CNTRL	ALARM	ACK PNT	NONE	DC-124 ANNULUS MASTER VALVE (AMV)			HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	3:21:45 AM	ATS_PI12433	PVHI	ACK	NONE	DC-124 ANNULUS PRESSURE	5278.04	PSIA	HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	3:21:45 AM	ATS_PI12433	ALARM	ACK PNT	NONE	DC-124 ANNULUS PRESSURE			HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	3:21:48 AM	ATS_PI12433	PVHI	OK	H 00	DC-124 ANNULUS PRESSURE	3393.71	PSIA	
OPEN	7-Jan-08	3:22:28 AM	ATS_XV12414_BYP	CHANGE		NONE	OP	BYPASS		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	3:22:28 AM	ATS_XV12414_BYP	CHANGE		J 00	DC-124 ANNULUS MASTER VALVE (AMV)	BYPASS		
OPEN	7-Jan-08	3:22:30 AM	ATS_XV12414_INTLK	ALARM	OK	J 00	DC-124 ANNULUS MASTER VALVE (AMV)	NORMAL		
OPEN	7-Jan-08	3:22:34 AM	ATS_XV12414_CNTRL	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	3:22:34 AM	ATS_XV12414_OP	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	3:22:40 AM	ATS_XV12414_CNTRL	ALARM	OK	H 00	DC-124 ANNULUS MASTER VALVE (AMV)	TRAVEL		
OPEN	7-Jan-08	3:22:40 AM	ATS_XV12414_TO	ALARM	OK	J 00	DC-124 ANNULUS MASTER VALVE (AMV)	NORMAL		
OPEN	7-Jan-08	3:22:43 AM	ATS_XV12412_CNTRL	CHANGE		NONE	OP	CLOSE		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	3:22:43 AM	ATS_XV12412_OP	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	3:22:59 AM	ATS_XV12413_CNTRL	ALARM	OK	H 00	DC-124 ANNULUS WING VALVE (AWV)	CLOSE		
OPEN	7-Jan-08	3:22:59 AM	ATS_XV12413_TO	ALARM	OK	J 00	DC-124 ANNULUS WING VALVE (AWV)	NORMAL		
	7-Jan-08	3:24:57 AM	ATT_HS984AB_RUN_CMD	ALARM	ACK PNT	NONE	CORR/SCALE XFR PMP			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:57 AM	ATT_XV98301	ALARM	ACK PNT	NONE	COR/SCL INHIB BULK TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:57 AM	ATT_XV98301	ALARM	ACK PNT	NONE	COR/SCL INHIB BULK TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:57 AM	ATT_XV98101	ALARM	ACK PNT	NONE	ASPHALTENE INHIB BULK TK			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:57 AM	ATT_XV98101	ALARM	ACK PNT	NONE	ASPHALTENE INHIB BULK TK			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:57 AM	ATT_XV98351	ALARM	ACK PNT	NONE	COR/SCL INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:57 AM	ATT_XV98351	ALARM	ACK PNT	NONE	COR/SCL INHIB TANK			HIGH LEVEL SUBSEA C~

BPEP_ABB_04125310- .xls - "Event Journal" Sheet

XOV Open	DATE	TIME	TAGNAME	CONDITON		PRIORITY	DESCRIPTION	TRIP VALUE	UNITS	
	7-Jan-08	3:24:57 AM	ATT_XV98151	ALARM	ACK PNT	NONE	ASPHALTENE INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:57 AM	ATT_XV98151_ALM	ALARM	ACK PNT	NONE	ASPHALTENE INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:57 AM	ATT_XV98151	ALARM	ACK PNT	NONE	ASPHALTENE INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:57 AM	ATT_PXT98361	ALARM	ACK PNT	NONE	ASPHALT INJ PMP 1 DISCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:57 AM	ATT_PXT98361	ALARM	ACK PNT	NONE	ASPHALT INJ PMP 1 DISCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:57 AM	ATT_PXT98311	ALARM	ACK PNT	NONE	COR/SCL INHIB PMP DISCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:57 AM	ATT_PXT98311	ALARM	ACK PNT	NONE	COR/SCL INHIB PMP DISCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:57 AM	ATT_PXT98111	ALARM	ACK PNT	NONE	ASPHALT INJ PMP 2 DSCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:57 AM	ATT_PXT98111	ALARM	ACK PNT	NONE	ASPHALT INJ PMP 2 DSCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:57 AM	ATT_PXT98161	ALARM	ACK PNT	NONE	COR/SCL INHIB PMP 2 DSCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:57 AM	ATT_PXT98161	ALARM	ACK PNT	NONE	COR/SCL INHIB PMP 2 DSCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:57 AM	ATT_LXT98351	ALARM	ACK PNT	NONE	COR/SCL INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:57 AM	ATT_LXT98351	ALARM	ACK PNT	NONE	COR/SCL INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:57 AM	ATT_LXT98151	ALARM	ACK PNT	NONE	ASPHALTENE INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:57 AM	ATT_LXT98151	ALARM	ACK PNT	NONE	ASPHALTENE INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:57 AM	ATT_LXT98301	ALARM	ACK PNT	NONE	COR/SCL INHIB BULK TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:57 AM	ATT_LXT98301	ALARM	ACK PNT	NONE	COR/SCL INHIB BULK TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:57 AM	ATT_LXT98101	ALARM	ACK PNT	NONE	ASPHALTENE INHIB BULK TK			HIGH LEVEL SUBSEA C~

BPEP_ABB_04125310- xls - "Event Journal" Sheet

XOV Open	DATE	TIME	TAGNAME	CONDITON		PRIORITY	DESCRIPTION	TRIP_VALUE	UNITS	
	7-Jan-08	3:24:57 AM	ATT_LXT98101	ALARM	ACK PNT	NONE	ASPHALTENE INHIB BULK TK			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:57 AM	ATT_HS984AB_RUN_CMD	ALARM	ACK PNT	NONE	CORR/SCALE XFR PMP			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:57 AM	ATT_HS984AB_RUN_CMD	ALARM	ACK PNT	NONE	CORR/SCALE XFR PMP			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:57 AM	ATT_HS982AB_RUN_CMD	ALARM	ACK PNT	NONE	ASPHLTNE XFR PMP			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:57 AM	ATT_HS982AB_RUN_CMD	ALARM	ACK PNT	NONE	ASPHLTNE XFR PMP			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:57 AM	ATT_HS982AB_RUN_CMD	ALARM	ACK PNT	NONE	ASPHLTNE XFR PMP			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:57 AM	ATT_HS984AB_RUN_CMD	ALARM	ACK PNT	NONE	CORR/SCALE XFR PMP			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:57 AM	ATT_XV98301	ALARM	ACK PNT	NONE	COR/SCL INHIB BULK TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:57 AM	ATT_XV98301	ALARM	ACK PNT	NONE	COR/SCL INHIB BULK TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:57 AM	ATT_XV98101	ALARM	ACK PNT	NONE	ASPHALTENE INHIB BULK TK			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:57 AM	ATT_XV98101	ALARM	ACK PNT	NONE	ASPHALTENE INHIB BULK TK			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:57 AM	ATT_XV98351	ALARM	ACK PNT	NONE	COR/SCL INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:57 AM	ATT_XV98351	ALARM	ACK PNT	NONE	COR/SCL INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:57 AM	ATT_XV98151	ALARM	ACK PNT	NONE	ASPHALTENE INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:57 AM	ATT_XV98151	ALARM	ACK PNT	NONE	ASPHALTENE INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:58 AM	ATT_PXT98361	ALARM	ACK PNT	NONE	ASPHALT INJ PMP 1 DISCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:58 AM	ATT_PXT98361	ALARM	ACK PNT	NONE	ASPHALT INJ PMP 1 DISCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:58 AM	ATT_PXT98311	ALARM	ACK PNT	NONE	COR/SCL INHIB PMP DISCH			HIGH LEVEL SUBSEA C~

BPEP_ABB_04125310- xls - "Event Journal" Sheet

XOV Open	DATE	TIME	TAGNAME	CONDITION	ACK	PRIORITY	DESCRIPTION	TRIP VALUE	UNITS	
	7-Jan-08	3:24:58 AM	ATT_PXT98311	ALARM	ACK PNT	NONE	COR/SCL INHIB PMP DISCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:58 AM	ATT_PXT98111	ALARM	ACK PNT	NONE	ASPHALT INJ PMP 2 DSCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:58 AM	ATT_PXT98111	ALARM	ACK PNT	NONE	ASPHALT INJ PMP 2 DSCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:58 AM	ATT_PXT98161	ALARM	ACK PNT	NONE	COR/SCL INHIB PMP 2 DSCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:58 AM	ATT_PXT98161	ALARM	ACK PNT	NONE	COR/SCL INHIB PMP 2 DSCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:58 AM	ATT_LXT98351	ALARM	ACK PNT	NONE	COR/SCL INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:58 AM	ATT_LXT98351	ALARM	ACK PNT	NONE	COR/SCL INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:58 AM	ATT_LXT98151	ALARM	ACK PNT	NONE	ASPHALTENE INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:58 AM	ATT_LXT98151	ALARM	ACK PNT	NONE	ASPHALTENE INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:58 AM	ATT_LXT98301	ALARM	ACK PNT	NONE	COR/SCL INHIB BULK TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:58 AM	ATT_LXT98301	ALARM	ACK PNT	NONE	COR/SCL INHIB BULK TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:58 AM	ATT_LXT98101	ALARM	ACK PNT	NONE	ASPHALTENE INHIB BULK TK			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:58 AM	ATT_LXT98101	ALARM	ACK PNT	NONE	ASPHALTENE INHIB BULK TK			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:58 AM	ATT_HS984AB_RUN_CMD	ALARM	ACK PNT	NONE	CORR/SCALE XFR PMP			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:58 AM	ATT_HS984AB_RUN_CMD	ALARM	ACK PNT	NONE	CORR/SCALE XFR PMP			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:58 AM	ATT_HS982AB_RUN_CMD	ALARM	ACK PNT	NONE	ASPHLTNE XFR PMP			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:58 AM	ATT_HS982AB_RUN_CMD	ALARM	ACK PNT	NONE	ASPHLTNE XFR PMP			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:58 AM	ATT_HS982AB_RUN_CMD	ALARM	ACK PNT	NONE	ASPHLTNE XFR PMP			HIGH LEVEL SUBSEA C~

BPEP_ABB_04125310- .xls - "Event Journal" Sheet

XOV Open	DATE	TIME	TAGNAME	CONDITON		PRIORITY	DESCRIPTION	TRIP VALUE	UNITS	
	7-Jan-08	3:24:58 AM	ATT_HS984AB_RUN_CMD	ALARM	ACK PNT	NONE	CORR/SCALE XFR PMP			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:58 AM	ATT_XV98301	ALARM	ACK PNT	NONE	COR/SCL INHIB BULK TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:58 AM	ATT_XV98301	ALARM	ACK PNT	NONE	COR/SCL INHIB BULK TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:58 AM	ATT_XV98101	ALARM	ACK PNT	NONE	ASPHALTENE INHIB BULK TK			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:58 AM	ATT_XV98101	ALARM	ACK PNT	NONE	ASPHALTENE INHIB BULK TK			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:58 AM	ATT_XV98351	ALARM	ACK PNT	NONE	COR/SCL INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:58 AM	ATT_XV98351	ALARM	ACK PNT	NONE	COR/SCL INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:58 AM	ATT_XV98151	ALARM	ACK PNT	NONE	ASPHALTENE INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:58 AM	ATT_XV98151	ALARM	ACK PNT	NONE	ASPHALTENE INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:58 AM	ATT_PXT98361	ALARM	ACK PNT	NONE	ASPHALT INJ PMP 1 DISCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:58 AM	ATT_PXT98361	ALARM	ACK PNT	NONE	ASPHALT INJ PMP 1 DISCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:58 AM	ATT_PXT98311	ALARM	ACK PNT	NONE	COR/SCL INHIB PMP DISCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:58 AM	ATT_PXT98311	ALARM	ACK PNT	NONE	COR/SCL INHIB PMP DISCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:58 AM	ATT_PXT98111	ALARM	ACK PNT	NONE	ASPHALT INJ PMP 2 DSCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:58 AM	ATT_PXT98111	ALARM	ACK PNT	NONE	ASPHALT INJ PMP 2 DSCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:58 AM	ATT_PXT98161	ALARM	ACK PNT	NONE	COR/SCL INHIB PMP 2 DSCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:58 AM	ATT_PXT98161	ALARM	ACK PNT	NONE	COR/SCL INHIB PMP 2 DSCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:58 AM	ATT_LXT98351	ALARM	ACK PNT	NONE	COR/SCL INHIB TANK			HIGH LEVEL SUBSEA C~

BPEP_ABB_04125310- .xls - "Event Journal" Sheet

XOV Open	DATE	TIME	TAGNAME	CONDITON		PRIORITY	DESCRIPTION	TRIP VALUE	UNITS	
	7-Jan-08	3:24:58 AM	ATT_LXT98351	ALARM	ACK PNT	NONE	COR/SCL INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:58 AM	ATT_LXT98151	ALARM	ACK PNT	NONE	ASPHALTENE INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:58 AM	ATT_LXT98151	ALARM	ACK PNT	NONE	ASPHALTENE INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:58 AM	ATT_LXT98301	ALARM	ACK PNT	NONE	COR/SCL INHIB BULK TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:58 AM	ATT_LXT98301	ALARM	ACK PNT	NONE	COR/SCL INHIB BULK TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:58 AM	ATT_LXT98101	ALARM	ACK PNT	NONE	ASPHALTENE INHIB BULK TK			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:58 AM	ATT_LXT98101	ALARM	ACK PNT	NONE	ASPHALTENE INHIB BULK TK			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:58 AM	ATT_HS984AB_RUN_CMD	ALARM	ACK PNT	NONE	CORR/SCALE XFR PMP			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:58 AM	ATT_HS984AB_RUN_CMD	ALARM	ACK PNT	NONE	CORR/SCALE XFR PMP			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:58 AM	ATT_HS982AB_RUN_CMD	ALARM	ACK PNT	NONE	ASPHLTNE XFR PMP			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:58 AM	ATT_HS982AB_RUN_CMD	ALARM	ACK PNT	NONE	ASPHLTNE XFR PMP			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:58 AM	ATT_HS982AB_RUN_CMD	ALARM	ACK PNT	NONE	ASPHLTNE XFR PMP			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:59 AM	ATT_HS984AB_RUN_CMD	ALARM	ACK PNT	NONE	CORR/SCALE XFR PMP			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:59 AM	ATT_XV98301	ALARM	ACK PNT	NONE	COR/SCL INHIB BULK TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:59 AM	ATT_XV98301	ALARM	ACK PNT	NONE	COR/SCL INHIB BULK TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:59 AM	ATT_XV98101	ALARM	ACK PNT	NONE	ASPHALTENE INHIB BULK TK			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:59 AM	ATT_XV98101	ALARM	ACK PNT	NONE	ASPHALTENE INHIB BULK TK			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:59 AM	ATT_XV98351	ALARM	ACK PNT	NONE	COR/SCL INHIB TANK			HIGH LEVEL SUBSEA C~

BPEP_ABB_04125310-xls - "Event Journal" Sheet

XOV Open	DATE	TIME	TAGNAME	CONDITON	ACK	PRIORITY	DESCRIPTION	TRIP VALUE	UNITS	
	7-Jan-08	3:24:59 AM	ATT_XV98351	ALARM	ACK PNT	NONE	COR/SCL INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:59 AM	ATT_XV98151	ALARM	ACK PNT	NONE	ASPHALTENE INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:59 AM	ATT_XV98151	ALARM	ACK PNT	NONE	ASPHALTENE INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:59 AM	ATT_PXT98361	ALARM	ACK PNT	NONE	ASPHALT INJ PMP 1 DISCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:59 AM	ATT_PXT98361	ALARM	ACK PNT	NONE	ASPHALT INJ PMP 1 DISCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:59 AM	ATT_PXT98311	ALARM	ACK PNT	NONE	COR/SCL INHIB PMP DISCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:59 AM	ATT_PXT98311	ALARM	ACK PNT	NONE	COR/SCL INHIB PMP DISCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:59 AM	ATT_PXT98111	ALARM	ACK PNT	NONE	ASPHALT INJ PMP 2 DSCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:59 AM	ATT_PXT98111	ALARM	ACK PNT	NONE	ASPHALT INJ PMP 2 DSCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:59 AM	ATT_PXT98161	ALARM	ACK PNT	NONE	COR/SCL INHIB PMP 2 DSCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:59 AM	ATT_PXT98161	ALARM	ACK PNT	NONE	COR/SCL INHIB PMP 2 DSCH			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:59 AM	ATT_LXT98351	ALARM	ACK PNT	NONE	COR/SCL INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:59 AM	ATT_LXT98351	ALARM	ACK PNT	NONE	COR/SCL INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:59 AM	ATT_LXT98151	ALARM	ACK PNT	NONE	ASPHALTENE INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:59 AM	ATT_LXT98151	ALARM	ACK PNT	NONE	ASPHALTENE INHIB TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:59 AM	ATT_LXT98301	ALARM	ACK PNT	NONE	COR/SCL INHIB BULK TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:59 AM	ATT_LXT98301	ALARM	ACK PNT	NONE	COR/SCL INHIB BULK TANK			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:59 AM	ATT_LXT98101	ALARM	ACK PNT	NONE	ASPHALTENE INHIB BULK TK			HIGH LEVEL SUBSEA C~

XOV Open	DATE	TIME	TAGNAME	CONDITON		PRIORITY	DESCRIPTION	TRIP VALUE	UNITS	
	7-Jan-08	3:24:59 AM	ATT_LXT98101	ALARM	ACK PNT	NONE	ASPHALTENE INHIB BULK TK			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:59 AM	ATT_HS984AB_RUN_CMD	ALARM	ACK PNT	NONE	CORR/SCALE XFR PMP			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:59 AM	ATT_HS984AB_RUN_CMD	ALARM	ACK PNT	NONE	CORR/SCALE XFR PMP			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:59 AM	ATT_HS982AB_RUN_CMD	ALARM	ACK PNT	NONE	ASPHLTNE XFR PMP			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:59 AM	ATT_HS982AB_RUN_CMD	ALARM	ACK PNT	NONE	ASPHLTNE XFR PMP			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:24:59 AM	ATT_HS982AB_RUN_CMD	ALARM	ACK PNT	NONE	ASPHLTNE XFR PMP			HIGH LEVEL SUBSEA C~
	7-Jan-08	3:55:32 AM	ATT_PI98361	CHANGE		NONE	A1	4854		HIGH LEVEL SUBSEA C~
	7-Jan-08	3:55:34 AM	ATT_PH98361_BYP	CHANGE		NONE	OP	NORMAL		HIGH LEVEL SUBSEA C~
	7-Jan-08	4:01:09 AM	ATS_XV12416_CNTRL	ALARM		H 00	DC-124 DOWNSTREAM CROSSOVER VALVE (DXV)	BAD		
	7-Jan-08	4:01:09 AM	ATS_XV12416_TO	ALARM		J 00	DC-124 DOWNSTREAM CROSSOVER VALVE (DXV)	TIMEOUT		
	7-Jan-08	4:01:29 AM	ATS_XV12413_CNTRL	ALARM		H 00	DC-124 ANNULUS WING VALVE (AWV)	BAD		
	7-Jan-08	4:01:29 AM	ATS_XV12413_TO	ALARM		J 00	DC-124 ANNULUS WING VALVE (AWV)	TIMEOUT		
	7-Jan-08	4:03:59 AM	ATS_XV12414_CNTRL	ALARM		H 00	DC-124 ANNULUS MASTER VALVE (AMV)	BAD		
	7-Jan-08	4:03:59 AM	ATS_XV12414_TO	ALARM		J 00	DC-124 ANNULUS MASTER VALVE (AMV)	TIMEOUT		
	7-Jan-08	4:04:19 AM	ATS_XV12416_CNTRL	ALARM	OK	H 00	DC-124 DOWNSTREAM CROSSOVER VALVE (DXV)	CLOSE		
	7-Jan-08	4:04:19 AM	ATS_XV12416_TO	ALARM	OK	J 00	DC-124 DOWNSTREAM CROSSOVER VALVE (DXV)	NORMAL		
OPEN	7-Jan-08	4:04:38 AM	ATS_PI12433	PVHI		H 00	DC-124 ANNULUS PRESSURE	5271.69	PSIA	
OPEN	7-Jan-08	4:04:40 AM	ATS_XV12412_CNTRL	ALARM		H 00	DC-124 CROSSOVER VALVE (XOV)	BAD		
OPEN	7-Jan-08	4:04:40 AM	ATS_XV12412_TO	ALARM		J 00	DC-124 CROSSOVER VALVE (XOV)	TIMEOUT		
OPEN	7-Jan-08	4:04:40 AM	ATS_XV12412_CNTRL	CHANGE		NONE	OP	CLOSE		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:04:41 AM	ATS_XV12412_OP	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:04:44 AM	ATS_XV12412_CNTRL	CHANGE		NONE	OP	CLOSE		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:04:44 AM	ATS_XV12412_OP	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:04:47 AM	ATS_XV12412_CNTRL	ALARM	OK	H 00	DC-124 CROSSOVER VALVE (XOV)	TRAVEL		
OPEN	7-Jan-08	4:04:47 AM	ATS_XV12412_TO	ALARM	OK	J 00	DC-124 CROSSOVER VALVE (XOV)	NORMAL		
OPEN	7-Jan-08	4:06:58 AM	ATS_XV12413_CNTRL	ALARM	OK	H 00	DC-124 ANNULUS WING VALVE (AWV)	CLOSE		
OPEN	7-Jan-08	4:06:58 AM	ATS_XV12413_TO	ALARM	OK	J 00	DC-124 ANNULUS WING VALVE (AWV)	NORMAL		
OPEN	7-Jan-08	4:07:07 AM	ATS_PI12433	PVHI	OK	H 00	DC-124 ANNULUS PRESSURE	2767.72	PSIA	
OPEN	7-Jan-08	4:07:09 AM	ATS_XV12414_CNTRL	ALARM	OK	H 00	DC-124 ANNULUS MASTER VALVE (AMV)	OPEN		
OPEN	7-Jan-08	4:07:09 AM	ATS_XV12414_TO	ALARM	OK	J 00	DC-124 ANNULUS MASTER VALVE (AMV)	NORMAL		
	7-Jan-08	4:09:21 AM	ATS_XV12414_CNTRL	ALARM	ACK	NONE	DC-124 ANNULUS MASTER VALVE (AMV)	BAD		HIGH LEVEL SUBSEA C~
	7-Jan-08	4:09:21 AM	ATS_XV12414_CNTRL	ALARM	ACK PNT	NONE	DC-124 ANNULUS MASTER VALVE (AMV)			HIGH LEVEL SUBSEA C~

XOV Open	DATE	TIME	TAGNAME	CONDITON		PRIORITY	DESCRIPTION	TRIP VALUE	UNITS	
	7-Jan-08	4:09:22 AM	ATS_XV12416_CNTRL	ALARM	ACK	NONE	DC-124 DOWNSTREAM CROSSOVER VALVE (DXV)	BAD		HIGH LEVEL SUBSEA C~
	7-Jan-08	4:09:22 AM	ATS_XV12416_CNTRL	ALARM	ACK PNT	NONE	DC-124 DOWNSTREAM CROSSOVER VALVE (DXV)			HIGH LEVEL SUBSEA C~
	7-Jan-08	4:09:22 AM	ATS_PI12433	PVHI	ACK	NONE	DC-124 ANNULUS PRESSURE	5271.69	PSIA	HIGH LEVEL SUBSEA C~
	7-Jan-08	4:09:22 AM	ATS_PI12433	ALARM	ACK PNT	NONE	DC-124 ANNULUS PRESSURE			HIGH LEVEL SUBSEA C~
	7-Jan-08	4:09:22 AM	ATS_XV12412_CNTRL	ALARM	ACK	NONE	DC-124 CROSSOVER VALVE (XOV)	BAD		HIGH LEVEL SUBSEA C~
	7-Jan-08	4:09:22 AM	ATS_XV12412_CNTRL	ALARM	ACK PNT	NONE	DC-124 CROSSOVER VALVE (XOV)			HIGH LEVEL SUBSEA C~
	7-Jan-08	4:09:22 AM	ATS_XV12413_CNTRL	ALARM	ACK	NONE	DC-124 ANNULUS WING VALVE (AWV)	BAD		HIGH LEVEL SUBSEA C~
	7-Jan-08	4:09:22 AM	ATS_XV12413_CNTRL	ALARM	ACK PNT	NONE	DC-124 ANNULUS WING VALVE (AWV)			HIGH LEVEL SUBSEA C~
	7-Jan-08	4:15:18 AM	ATS_TT12436_STAT	ALARM		H 00	DC-124 CHOKE UPSTREAM TEMPERATURE STATUS	PV-A		
	7-Jan-08	4:15:18 AM	ATS_TT12438_STAT	ALARM		H 00	DC-124 CHOKE DOWNSTREAM TEMPERATURE STATUS	PV-A		
	7-Jan-08	4:15:18 AM	ATS_ZT12447_STAT	ALARM		H 00	DC-124 CHOKE POSITION (LVDT) STATUS	PV-A		
	7-Jan-08	4:15:18 AM	ATS_PT12461_STAT	ALARM		H 00	DC-124 LP SUPPLY PRESSURE STATUS	PV-A		
	7-Jan-08	4:15:18 AM	ATS_PT12462_STAT	ALARM		H 00	DC-124 HP SUPPLY PRESSURE STATUS	PV-A		
	7-Jan-08	4:15:18 AM	ATS_PT12463_STAT	ALARM		H 00	DC-124 LP RETURN PRESSURE STATUS	PV-A		
	7-Jan-08	4:15:18 AM	ATS_PT12464_STAT	ALARM		H 00	DC-124 HP RETURN PRESSURE STATUS	PV-A		
	7-Jan-08	4:15:18 AM	ATS_ET12465A_STAT	ALARM		H 00	DC-124 SEM SUPPLY VOLTAGE SEM A STATUS	PV_BAD		
	7-Jan-08	4:15:18 AM	ATS_PT12433_STAT	ALARM		H 00	DC-124 ANNULUS PRESSURE SEM A STATUS	PV-A		
	7-Jan-08	4:15:18 AM	ATS_PT12435_STAT	ALARM		H 00	DC-124 CHOKE UPSTREAM PRESSURE SEM A STATUS	PV-A		
	7-Jan-08	4:15:18 AM	ATS_PT12437_STAT	ALARM		H 00	DC-124 CHOKE DOWNSTREAM PRESSURE SEM A STATUS	PV-A		
	7-Jan-08	4:15:18 AM	ATS_PT12439_STAT	ALARM		H 00	DC-124 CROWN PLUG PRESSURE SEM A STATUS	PV-A		
	7-Jan-08	4:15:28 AM	ATS_PT12461_STAT	ALARM	OK	H 00	DC-124 LP SUPPLY PRESSURE STATUS	NORMAL		
	7-Jan-08	4:15:28 AM	ATS_PT12462_STAT	ALARM	OK	H 00	DC-124 HP SUPPLY PRESSURE STATUS	NORMAL		
	7-Jan-08	4:15:28 AM	ATS_PT12463_STAT	ALARM	OK	H 00	DC-124 LP RETURN PRESSURE STATUS	NORMAL		
	7-Jan-08	4:15:28 AM	ATS_PT12464_STAT	ALARM	OK	H 00	DC-124 HP RETURN PRESSURE STATUS	NORMAL		
	7-Jan-08	4:15:38 AM	ATS_TT12436_STAT	ALARM	OK	H 00	DC-124 CHOKE UPSTREAM TEMPERATURE STATUS	NORMAL		
	7-Jan-08	4:15:38 AM	ATS_TT12438_STAT	ALARM	OK	H 00	DC-124 CHOKE DOWNSTREAM TEMPERATURE STATUS	NORMAL		
	7-Jan-08	4:15:38 AM	ATS_ZT12447_STAT	ALARM	OK	H 00	DC-124 CHOKE POSITION (LVDT) STATUS	NORMAL		
	7-Jan-08	4:15:38 AM	ATS_PT12433_STAT	ALARM	OK	H 00	DC-124 ANNULUS PRESSURE SEM A STATUS	NORMAL		
	7-Jan-08	4:15:38 AM	ATS_PT12435_STAT	ALARM	OK	H 00	DC-124 CHOKE UPSTREAM PRESSURE SEM A STATUS	NORMAL		
	7-Jan-08	4:15:38 AM	ATS_PT12437_STAT	ALARM	OK	H 00	DC-124 CHOKE DOWNSTREAM PRESSURE SEM A STATUS	NORMAL		

XOV Open	DATE	TIME	TAGNAME	CONDITON		PRIORITY	DESCRIPTION	TRIP VALUE	UNITS	
	7-Jan-08	4:15:38 AM	ATS_PT12439_STAT	ALARM	OK	H 00	DC-124 CROWN PLUG PRESSURE SEM A STATUS	NORMAL		
	7-Jan-08	4:15:57 AM	ATS_ET12465A_STAT	ALARM	OK	H 00	DC-124 SEM SUPPLY VOLTAGE SEM A STATUS	NORMAL		
	7-Jan-08	4:16:09 AM	ATS_XV12416_CNTRL	ALARM		H 00	DC-124 DOWNSTREAM CROSSOVER VALVE (DXV)	BAD		
	7-Jan-08	4:16:09 AM	ATS_XV12416_TO	ALARM		J 00	DC-124 DOWNSTREAM CROSSOVER VALVE (DXV)	TIMEOUT		
	7-Jan-08	4:16:16 AM	ATS_XV12416_CNTRL	ALARM	ACK	NONE	DC-124 DOWNSTREAM CROSSOVER VALVE (DXV)	BAD		HIGH LEVEL SUBSEA C~
	7-Jan-08	4:16:16 AM	ATS_XV12416_CNTRL	ALARM	ACK PNT	NONE	DC-124 DOWNSTREAM CROSSOVER VALVE (DXV)			HIGH LEVEL SUBSEA C~
	7-Jan-08	4:16:16 AM	ATS_PT12433_STAT	ALARM	ACK	NONE	DC-124 ANNULUS PRESSURE SEM A STATUS	PV-A		HIGH LEVEL SUBSEA C~
	7-Jan-08	4:16:16 AM	ATS_PT12433_STAT	ALARM	ACK PNT	NONE	DC-124 ANNULUS PRESSURE SEM A STATUS			HIGH LEVEL SUBSEA C~
	7-Jan-08	4:16:16 AM	ATS_PT12439_STAT	ALARM	ACK	NONE	DC-124 CROWN PLUG PRESSURE SEM A STATUS	PV-A		HIGH LEVEL SUBSEA C~
	7-Jan-08	4:16:16 AM	ATS_PT12439_STAT	ALARM	ACK PNT	NONE	DC-124 CROWN PLUG PRESSURE SEM A STATUS			HIGH LEVEL SUBSEA C~
	7-Jan-08	4:16:16 AM	ATS_PT12435_STAT	ALARM	ACK	NONE	DC-124 CHOKE UPSTREAM PRESSURE SEM A STATUS	PV-A		HIGH LEVEL SUBSEA C~
	7-Jan-08	4:16:16 AM	ATS_PT12435_STAT	ALARM	ACK PNT	NONE	DC-124 CHOKE UPSTREAM PRESSURE SEM A STATUS			HIGH LEVEL SUBSEA C~
	7-Jan-08	4:16:16 AM	ATS_TT12436_STAT	ALARM	ACK	NONE	DC-124 CHOKE UPSTREAM TEMPERATURE STATUS	PV-A		HIGH LEVEL SUBSEA C~
	7-Jan-08	4:16:16 AM	ATS_TT12436_STAT	ALARM	ACK PNT	NONE	DC-124 CHOKE UPSTREAM TEMPERATURE STATUS			HIGH LEVEL SUBSEA C~
	7-Jan-08	4:16:16 AM	ATS_TT12438_STAT	ALARM	ACK	NONE	DC-124 CHOKE DOWNSTREAM TEMPERATURE STATUS	PV-A		HIGH LEVEL SUBSEA C~
	7-Jan-08	4:16:16 AM	ATS_TT12438_STAT	ALARM	ACK PNT	NONE	DC-124 CHOKE DOWNSTREAM TEMPERATURE STATUS			HIGH LEVEL SUBSEA C~
	7-Jan-08	4:16:16 AM	ATS_PT12437_STAT	ALARM	ACK	NONE	DC-124 CHOKE DOWNSTREAM PRESSURE SEM A STATUS	PV-A		HIGH LEVEL SUBSEA C~
	7-Jan-08	4:16:16 AM	ATS_PT12437_STAT	ALARM	ACK PNT	NONE	DC-124 CHOKE DOWNSTREAM PRESSURE SEM A STATUS			HIGH LEVEL SUBSEA C~
	7-Jan-08	4:16:16 AM	ATS_ZT12447_STAT	ALARM	ACK	NONE	DC-124 CHOKE POSITION (LVDT) STATUS	PV-A		HIGH LEVEL SUBSEA C~
	7-Jan-08	4:16:16 AM	ATS_ZT12447_STAT	ALARM	ACK PNT	NONE	DC-124 CHOKE POSITION (LVDT) STATUS			HIGH LEVEL SUBSEA C~
	7-Jan-08	4:16:16 AM	ATS_PT12461_STAT	ALARM	ACK	NONE	DC-124 LP SUPPLY PRESSURE STATUS	PV-A		HIGH LEVEL SUBSEA C~
	7-Jan-08	4:16:16 AM	ATS_PT12461_STAT	ALARM	ACK PNT	NONE	DC-124 LP SUPPLY PRESSURE STATUS			HIGH LEVEL SUBSEA C~
	7-Jan-08	4:16:16 AM	ATS_PT12463_STAT	ALARM	ACK	NONE	DC-124 LP RETURN PRESSURE STATUS	PV-A		HIGH LEVEL SUBSEA C~
	7-Jan-08	4:16:16 AM	ATS_PT12463_STAT	ALARM	ACK PNT	NONE	DC-124 LP RETURN PRESSURE STATUS			HIGH LEVEL SUBSEA C~
	7-Jan-08	4:16:16 AM	ATS_PT12462_STAT	ALARM	ACK	NONE	DC-124 HP SUPPLY PRESSURE STATUS	PV-A		HIGH LEVEL SUBSEA C~

XOV Open	DATE	TIME	TAGNAME	CONDITON		PRIORITY	DESCRIPTION	TRIP VALUE	UNITS	
	7-Jan-08	4:16:16 AM	ATS_PT12462_STAT	ALARM	ACK PNT	NONE	DC-124 HP SUPPLY PRESSURE STATUS			HIGH LEVEL SUBSEA C~
	7-Jan-08	4:16:16 AM	ATS_PT12464_STAT	ALARM	ACK	NONE	DC-124 HP RETURN PRESSURE STATUS	PV-A		HIGH LEVEL SUBSEA C~
	7-Jan-08	4:16:16 AM	ATS_PT12464_STAT	ALARM	ACK PNT	NONE	DC-124 HP RETURN PRESSURE STATUS			HIGH LEVEL SUBSEA C~
	7-Jan-08	4:16:16 AM	ATS_ET12465A_STAT	ALARM	ACK	NONE	DC-124 SEM SUPPLY VOLTAGE SEM A STATUS	PV_BAD		HIGH LEVEL SUBSEA C~
	7-Jan-08	4:16:16 AM	ATS_ET12465A_STAT	ALARM	ACK PNT	NONE	DC-124 SEM SUPPLY VOLTAGE SEM A STATUS			HIGH LEVEL SUBSEA C~
	7-Jan-08	4:16:20 AM	ATS_XV12412_CNTRL	CHANGE		NONE	OP	CLOSE		HIGH LEVEL SUBSEA C~
	7-Jan-08	4:16:20 AM	ATS_XV12412_OP	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
	7-Jan-08	4:16:21 AM	ATS_XV12412_CNTRL	CHANGE		NONE	OP	CLOSE		HIGH LEVEL SUBSEA C~
	7-Jan-08	4:16:22 AM	ATS_XV12412_OP	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
	7-Jan-08	4:16:29 AM	ATS_XV12413_CNTRL	ALARM		H 00	DC-124 ANNULUS WING VALVE (AWV)	BAD		
	7-Jan-08	4:16:29 AM	ATS_XV12413_TO	ALARM		J 00	DC-124 ANNULUS WING VALVE (AWV)	TIMEOUT		
	7-Jan-08	4:16:45 AM	ATS_XV12416_BYP	CHANGE		NONE	OP	BYPASS		HIGH LEVEL SUBSEA C~
	7-Jan-08	4:16:45 AM	ATS_XV12416_BYP	CHANGE		J 00	DC-124 DOWNSTREAM CROSSOVER VALVE (DXV)	BYPASS		
	7-Jan-08	4:16:46 AM	ATS_XV12416_INTLK	ALARM	OK	J 00	DC-124 DOWNSTREAM CROSSOVER VALVE (DXV)	NORMAL		
	7-Jan-08	4:17:11 AM	ATS_XV12416_CNTRL	CHANGE		NONE	OP	CLOSE		HIGH LEVEL SUBSEA C~
	7-Jan-08	4:17:11 AM	ATS_XV12416_OP	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
	7-Jan-08	4:17:15 AM	ATS_XV12416_CNTRL	ALARM	OK	H 00	DC-124 DOWNSTREAM CROSSOVER VALVE (DXV)	TRAVEL		
	7-Jan-08	4:17:15 AM	ATS_XV12416_TO	ALARM	OK	J 00	DC-124 DOWNSTREAM CROSSOVER VALVE (DXV)	NORMAL		
	7-Jan-08	4:17:25 AM	ATS_XV12413_BYP	CHANGE		NONE	OP	BYPASS		HIGH LEVEL SUBSEA C~
	7-Jan-08	4:17:25 AM	ATS_XV12413_BYP	CHANGE		J 00	DC-124 ANNULUS WING VALVE (AWV)	BYPASS		
	7-Jan-08	4:17:26 AM	ATS_XV12413_INTLK	ALARM	OK	J 00	DC-124 ANNULUS WING VALVE (AWV)	NORMAL		
	7-Jan-08	4:17:33 AM	ATS_XV12413_CNTRL	CHANGE		NONE	OP	CLOSE		HIGH LEVEL SUBSEA C~
	7-Jan-08	4:17:34 AM	ATS_XV12413_OP	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
	7-Jan-08	4:17:39 AM	ATS_XV12413_CNTRL	ALARM	OK	H 00	DC-124 ANNULUS WING VALVE (AWV)	TRAVEL		
	7-Jan-08	4:17:39 AM	ATS_XV12413_TO	ALARM	OK	J 00	DC-124 ANNULUS WING VALVE (AWV)	NORMAL		
	7-Jan-08	4:18:13 AM	ATS_XV12413_CNTRL	ALARM	ACK	NONE	DC-124 ANNULUS WING VALVE (AWV)	BAD		HIGH LEVEL SUBSEA C~
	7-Jan-08	4:18:13 AM	ATS_XV12413_CNTRL	ALARM	ACK PNT	NONE	DC-124 ANNULUS WING VALVE (AWV)			HIGH LEVEL SUBSEA C~
	7-Jan-08	4:18:34 AM	ATS_XV12414_CNTRL	CHANGE		NONE	OP	CLOSE		HIGH LEVEL SUBSEA C~
	7-Jan-08	4:18:34 AM	ATS_XV12414_OP	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
	7-Jan-08	4:19:10 AM	ATS_XV12416_CNTRL	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
	7-Jan-08	4:19:11 AM	ATS_XV12416_OP	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
	7-Jan-08	4:19:50 AM	ATS_XV12416_CNTRL	ALARM		H 00	DC-124 DOWNSTREAM CROSSOVER VALVE (DXV)	BAD		
	7-Jan-08	4:19:50 AM	ATS_XV12416_TO	ALARM		J 00	DC-124 DOWNSTREAM CROSSOVER VALVE (DXV)	TIMEOUT		
	7-Jan-08	4:19:55 AM	ATS_XV12416_CNTRL	CHANGE		NONE	OP	CLOSE		HIGH LEVEL SUBSEA C~
	7-Jan-08	4:19:56 AM	ATS_XV12416_OP	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:20:01 AM	ATS_XV12416_CNTRL	ALARM	ACK	NONE	DC-124 DOWNSTREAM CROSSOVER VALVE (DXV)	BAD		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:20:01 AM	ATS_XV12416_CNTRL	ALARM	ACK PNT	NONE	DC-124 DOWNSTREAM CROSSOVER VALVE (DXV)			HIGH LEVEL SUBSEA C~

XOV Open	DATE	TIME	TAGNAME	CONDITON		PRIORITY	DESCRIPTION	TRIP VALUE	UNITS	
OPEN	7-Jan-08	4:20:02 AM	ATS_XV12416_CNTRL	ALARM	OK	H 00	DC-124 DOWNSTREAM CROSSOVER VALVE (DXV)	TRAVEL		
OPEN	7-Jan-08	4:20:02 AM	ATS_XV12416_TO	ALARM	OK	J 00	DC-124 DOWNSTREAM CROSSOVER VALVE (DXV)	NORMAL		
OPEN	7-Jan-08	4:20:06 AM	ATS_XV12413_CNTRL	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:20:06 AM	ATS_XV12413_OP	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:20:24 AM	ATS_PI12433	PVHI		H 00	DC-124 ANNULUS PRESSURE	4448.68	PSIA	
OPEN	7-Jan-08	4:20:30 AM	ATS_XV12412_CNTRL	ALARM		H 00	DC-124 CROSSOVER VALVE (XOV)	BAD		
OPEN	7-Jan-08	4:20:30 AM	ATS_XV12412_TO	ALARM		J 00	DC-124 CROSSOVER VALVE (XOV)	TIMEOUT		
OPEN	7-Jan-08	4:20:30 AM	ATS_XV12412_CNTRL	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:20:31 AM	ATS_XV12412_OP	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:20:33 AM	ATS_XV12412_OP	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:20:34 AM	ATS_XV12412_CNTRL	ALARM	OK	H 00	DC-124 CROSSOVER VALVE (XOV)	TRAVEL		
OPEN	7-Jan-08	4:20:34 AM	ATS_XV12412_TO	ALARM	OK	J 00	DC-124 CROSSOVER VALVE (XOV)	NORMAL		
OPEN	7-Jan-08	4:20:38 AM	ATS_PI12433	PVHI	ACK	NONE	DC-124 ANNULUS PRESSURE	4448.68	PSIA	HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:20:38 AM	ATS_PI12433	ALARM	ACK PNT	NONE	DC-124 ANNULUS PRESSURE			HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:20:38 AM	ATS_XV12412_CNTRL	ALARM	ACK	NONE	DC-124 CROSSOVER VALVE (XOV)	BAD		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:20:38 AM	ATS_XV12412_CNTRL	ALARM	ACK PNT	NONE	DC-124 CROSSOVER VALVE (XOV)			HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:21:19 AM	ATS_XV12412_CNTRL	ALARM		H 00	DC-124 CROSSOVER VALVE (XOV)	BAD		
OPEN	7-Jan-08	4:21:19 AM	ATS_XV12412_TO	ALARM		J 00	DC-124 CROSSOVER VALVE (XOV)	TIMEOUT		
OPEN	7-Jan-08	4:21:31 AM	ATS_XV12412_CNTRL	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:21:32 AM	ATS_XV12412_OP	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:21:36 AM	ATS_XV12412_CNTRL	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:21:37 AM	ATS_XV12412_CNTRL	ALARM	OK	H 00	DC-124 CROSSOVER VALVE (XOV)	TRAVEL		
OPEN	7-Jan-08	4:21:37 AM	ATS_XV12412_TO	ALARM	OK	J 00	DC-124 CROSSOVER VALVE (XOV)	NORMAL		
OPEN	7-Jan-08	4:21:37 AM	ATS_XV12412_OP	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:21:50 AM	ATS_XV12413_CNTRL	ALARM		H 00	DC-124 ANNULUS WING VALVE (AWV)	BAD		
OPEN	7-Jan-08	4:21:50 AM	ATS_XV12413_TO	ALARM		J 00	DC-124 ANNULUS WING VALVE (AWV)	TIMEOUT		
OPEN	7-Jan-08	4:22:04 AM	ATS_XV12413_CNTRL	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:22:05 AM	ATS_XV12413_OP	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:22:10 AM	ATS_XV12413_CNTRL	ALARM	OK	H 00	DC-124 ANNULUS WING VALVE (AWV)	TRAVEL		
OPEN	7-Jan-08	4:22:10 AM	ATS_XV12413_TO	ALARM	OK	J 00	DC-124 ANNULUS WING VALVE (AWV)	NORMAL		
OPEN	7-Jan-08	4:22:20 AM	ATS_XV12414_CNTRL	ALARM		H 00	DC-124 ANNULUS MASTER VALVE (AMV)	BAD		
OPEN	7-Jan-08	4:22:20 AM	ATS_XV12414_TO	ALARM		J 00	DC-124 ANNULUS MASTER VALVE (AMV)	TIMEOUT		
OPEN	7-Jan-08	4:22:50 AM	ATS_XV12414_CNTRL	CHANGE		NONE	OP	CLOSE		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:22:51 AM	ATS_XV12414_OP	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:22:56 AM	ATS_XV12414_CNTRL	ALARM	OK	H 00	DC-124 ANNULUS MASTER VALVE (AMV)	TRAVEL		
OPEN	7-Jan-08	4:22:56 AM	ATS_XV12414_TO	ALARM	OK	J 00	DC-124 ANNULUS MASTER VALVE (AMV)	NORMAL		
OPEN	7-Jan-08	4:23:04 AM	ATS_XV12412_CNTRL	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:23:04 AM	ATS_XV12412_OP	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:23:21 AM	ATS_XV12414_CNTRL	CHANGE		NONE	OP	CLOSE		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:23:21 AM	ATS_XV12414_OP	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:23:31 AM	ATS_ET12465A_STAT	ALARM		H 00	DC-124 SEM SUPPLY VOLTAGE SEM A STATUS	PV_BAD		

XOV Open	DATE	TIME	TAGNAME	CONDITON		PRIORITY	DESCRIPTION	TRIP VALUE	UNITS	
OPEN	7-Jan-08	4:23:34 AM	ATS_ET12465A_STAT	ALARM	OK	H 00	DC-124 SEM SUPPLY VOLTAGE SEM A STATUS	NORMAL		
OPEN	7-Jan-08	4:24:01 AM	ATS_XV12412_CNTRL	CHANGE		NONE	OP	CLOSE		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:24:01 AM	ATS_XV12412_OP	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:24:13 AM	ATS_XV12414_CNTRL	ALARM	ACK	NONE	DC-124 ANNULUS MASTER VALVE (AMV)	BAD		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:24:13 AM	ATS_XV12414_CNTRL	ALARM	ACK PNT	NONE	DC-124 ANNULUS MASTER VALVE (AMV)			HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:24:13 AM	ATS_XV12412_CNTRL	ALARM	ACK	NONE	DC-124 CROSSOVER VALVE (XOV)	BAD		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:24:13 AM	ATS_XV12412_CNTRL	ALARM	ACK PNT	NONE	DC-124 CROSSOVER VALVE (XOV)			HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:24:13 AM	ATS_XV12413_CNTRL	ALARM	ACK	NONE	DC-124 ANNULUS WING VALVE (AWV)	BAD		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:24:13 AM	ATS_XV12413_CNTRL	ALARM	ACK PNT	NONE	DC-124 ANNULUS WING VALVE (AWV)			HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:24:13 AM	ATS_ET12465A_STAT	ALARM	ACK	NONE	DC-124 SEM SUPPLY VOLTAGE SEM A STATUS	PV_BAD		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:24:13 AM	ATS_ET12465A_STAT	ALARM	ACK PNT	NONE	DC-124 SEM SUPPLY VOLTAGE SEM A STATUS			HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:26:11 AM	ATS_PI12433	PVHI	OK	H 00	DC-124 ANNULUS PRESSURE	3600.25	PSIA	
OPEN	7-Jan-08	4:26:22 AM	ATS_XV12416_CNTRL	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:26:22 AM	ATS_XV12416_OP	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:28:04 AM	ATS_TT12436_STAT	ALARM		H 00	DC-124 CHOKE UPSTREAM TEMPERATURE STATUS	PV-A		
OPEN	7-Jan-08	4:28:04 AM	ATS_TT12438_STAT	ALARM		H 00	DC-124 CHOKE DOWNSTREAM TEMPERATURE STATUS	PV-A		
OPEN	7-Jan-08	4:28:04 AM	ATS_ZT12447_STAT	ALARM		H 00	DC-124 CHOKE POSITION (LVDT) STATUS	PV-A		
OPEN	7-Jan-08	4:28:04 AM	ATS_PT12461_STAT	ALARM		H 00	DC-124 LP SUPPLY PRESSURE STATUS	PV-A		
OPEN	7-Jan-08	4:28:04 AM	ATS_PT12462_STAT	ALARM		H 00	DC-124 HP SUPPLY PRESSURE STATUS	PV-A		
OPEN	7-Jan-08	4:28:04 AM	ATS_PT12463_STAT	ALARM		H 00	DC-124 LP RETURN PRESSURE STATUS	PV-A		
OPEN	7-Jan-08	4:28:04 AM	ATS_PT12464_STAT	ALARM		H 00	DC-124 HP RETURN PRESSURE STATUS	PV-A		
OPEN	7-Jan-08	4:28:04 AM	ATS_ET12465A_STAT	ALARM		H 00	DC-124 SEM SUPPLY VOLTAGE SEM A STATUS	PV_BAD		
OPEN	7-Jan-08	4:28:04 AM	ATS_PT12433_STAT	ALARM		H 00	DC-124 ANNULUS PRESSURE SEM A STATUS	PV-A		
OPEN	7-Jan-08	4:28:04 AM	ATS_PT12435_STAT	ALARM		H 00	DC-124 CHOKE UPSTREAM PRESSURE SEM A STATUS	PV-A		
OPEN	7-Jan-08	4:28:04 AM	ATS_PT12437_STAT	ALARM		H 00	DC-124 CHOKE DOWNSTREAM PRESSURE SEM A STATUS	PV-A		
OPEN	7-Jan-08	4:28:04 AM	ATS_PT12439_STAT	ALARM		H 00	DC-124 CROWN PLUG PRESSURE SEM A STATUS	PV-A		
OPEN	7-Jan-08	4:28:09 AM	ATS_TT12436_STAT	ALARM	OK	H 00	DC-124 CHOKE UPSTREAM TEMPERATURE STATUS	NORMAL		
OPEN	7-Jan-08	4:28:09 AM	ATS_TT12438_STAT	ALARM	OK	H 00	DC-124 CHOKE DOWNSTREAM TEMPERATURE STATUS	NORMAL		
OPEN	7-Jan-08	4:28:09 AM	ATS_ZT12447_STAT	ALARM	OK	H 00	DC-124 CHOKE POSITION (LVDT) STATUS	NORMAL		
OPEN	7-Jan-08	4:28:09 AM	ATS_PT12461_STAT	ALARM	OK	H 00	DC-124 LP SUPPLY PRESSURE STATUS	NORMAL		
OPEN	7-Jan-08	4:28:09 AM	ATS_PT12462_STAT	ALARM	OK	H 00	DC-124 HP SUPPLY PRESSURE STATUS	NORMAL		
OPEN	7-Jan-08	4:28:09 AM	ATS_PT12463_STAT	ALARM	OK	H 00	DC-124 LP RETURN PRESSURE STATUS	NORMAL		

XOV Open	DATE	TIME	TAGNAME	CONDITON		PRIORITY	DESCRIPTION	TRIP VALUE	UNITS	
OPEN	7-Jan-08	4:28:09 AM	ATS_PT12464_STAT	ALARM	OK	H 00	DC-124 HP RETURN PRESSURE STATUS	NORMAL		
OPEN	7-Jan-08	4:28:09 AM	ATS_ET12465A_STAT	ALARM	OK	H 00	DC-124 SEM SUPPLY VOLTAGE SEM A STATUS	NORMAL		
OPEN	7-Jan-08	4:28:09 AM	ATS_PT12433_STAT	ALARM	OK	H 00	DC-124 ANNULUS PRESSURE SEM A STATUS	NORMAL		
OPEN	7-Jan-08	4:28:09 AM	ATS_PT12435_STAT	ALARM	OK	H 00	DC-124 CHOKE UPSTREAM PRESSURE SEM A STATUS	NORMAL		
OPEN	7-Jan-08	4:28:09 AM	ATS_PT12437_STAT	ALARM	OK	H 00	DC-124 CHOKE DOWNSTREAM PRESSURE SEM A STATUS	NORMAL		
OPEN	7-Jan-08	4:28:09 AM	ATS_PT12439_STAT	ALARM	OK	H 00	DC-124 CROWN PLUG PRESSURE SEM A STATUS	NORMAL		
OPEN	7-Jan-08	4:28:24 AM	ATS_PT12433_STAT	ALARM	ACK	NONE	DC-124 ANNULUS PRESSURE SEM A STATUS	PV-A		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:28:24 AM	ATS_PT12433_STAT	ALARM	ACK PNT	NONE	DC-124 ANNULUS PRESSURE SEM A STATUS			HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:28:24 AM	ATS_PT12439_STAT	ALARM	ACK	NONE	DC-124 CROWN PLUG PRESSURE SEM A STATUS	PV-A		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:28:24 AM	ATS_PT12439_STAT	ALARM	ACK PNT	NONE	DC-124 CROWN PLUG PRESSURE SEM A STATUS			HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:28:24 AM	ATS_PT12435_STAT	ALARM	ACK	NONE	DC-124 CHOKE UPSTREAM PRESSURE SEM A STATUS	PV-A		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:28:24 AM	ATS_PT12435_STAT	ALARM	ACK PNT	NONE	DC-124 CHOKE UPSTREAM PRESSURE SEM A STATUS			HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:28:24 AM	ATS_TT12436_STAT	ALARM	ACK	NONE	DC-124 CHOKE UPSTREAM TEMPERATURE STATUS	PV-A		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:28:24 AM	ATS_TT12436_STAT	ALARM	ACK PNT	NONE	DC-124 CHOKE UPSTREAM TEMPERATURE STATUS			HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:28:24 AM	ATS_TT12438_STAT	ALARM	ACK	NONE	DC-124 CHOKE DOWNSTREAM TEMPERATURE STATUS	PV-A		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:28:24 AM	ATS_TT12438_STAT	ALARM	ACK PNT	NONE	DC-124 CHOKE DOWNSTREAM TEMPERATURE STATUS			HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:28:24 AM	ATS_PT12437_STAT	ALARM	ACK	NONE	DC-124 CHOKE DOWNSTREAM PRESSURE SEM A STATUS	PV-A		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:28:24 AM	ATS_PT12437_STAT	ALARM	ACK PNT	NONE	DC-124 CHOKE DOWNSTREAM PRESSURE SEM A STATUS			HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:28:24 AM	ATS_ZT12447_STAT	ALARM	ACK	NONE	DC-124 CHOKE POSITION (LVDT) STATUS	PV-A		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:28:24 AM	ATS_ZT12447_STAT	ALARM	ACK PNT	NONE	DC-124 CHOKE POSITION (LVDT) STATUS			HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:28:24 AM	ATS_PT12461_STAT	ALARM	ACK	NONE	DC-124 LP SUPPLY PRESSURE STATUS	PV-A		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:28:24 AM	ATS_PT12461_STAT	ALARM	ACK PNT	NONE	DC-124 LP SUPPLY PRESSURE STATUS			HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:28:24 AM	ATS_PT12463_STAT	ALARM	ACK	NONE	DC-124 LP RETURN PRESSURE STATUS	PV-A		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:28:24 AM	ATS_PT12463_STAT	ALARM	ACK PNT	NONE	DC-124 LP RETURN PRESSURE STATUS			HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:28:24 AM	ATS_PT12462_STAT	ALARM	ACK	NONE	DC-124 HP SUPPLY PRESSURE STATUS	PV-A		HIGH LEVEL SUBSEA C~

XOV Open	DATE	TIME	TAGNAME	CONDITON		PRIORITY	DESCRIPTION	TRIP VALUE	UNITS	
OPEN	7-Jan-08	4:28:24 AM	ATS_PT12462_STAT	ALARM	ACK PNT	NONE	DC-124 HP SUPPLY PRESSURE STATUS			HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:28:24 AM	ATS_PT12464_STAT	ALARM	ACK	NONE	DC-124 HP RETURN PRESSURE STATUS	PV-A		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:28:24 AM	ATS_PT12464_STAT	ALARM	ACK PNT	NONE	DC-124 HP RETURN PRESSURE STATUS			HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:28:24 AM	ATS_ET12465A_STAT	ALARM	ACK	NONE	DC-124 SEM SUPPLY VOLTAGE SEM A STATUS	PV_BAD		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:28:24 AM	ATS_ET12465A_STAT	ALARM	ACK PNT	NONE	DC-124 SEM SUPPLY VOLTAGE SEM A STATUS			HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:28:44 AM	ATS_XV12416_CNTRL	CHANGE		NONE	OP	CLOSE		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:28:45 AM	ATS_XV12416_OP	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:28:54 AM	ATS_XV12413_CNTRL	CHANGE		NONE	OP	CLOSE		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:28:55 AM	ATS_XV12413_OP	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:29:02 AM	ATS_PI12433	PVHI		H 00	DC-124 ANNULUS PRESSURE	4057.83	PSIA	
OPEN	7-Jan-08	4:30:03 AM	ATS_XV12416_CNTRL	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:30:04 AM	ATS_XV12416_OP	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:30:11 AM	ATS_PI12433	PVHI	OK	H 00	DC-124 ANNULUS PRESSURE	2758.18	PSIA	
OPEN	7-Jan-08	4:30:16 AM	ATS_XV12416_CNTRL	CHANGE		NONE	OP	CLOSE		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:30:16 AM	ATS_XV12416_OP	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:30:24 AM	ATS_PI12433	PVHI	ACK	NONE	DC-124 ANNULUS PRESSURE	4057.83	PSIA	HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:30:24 AM	ATS_PI12433	ALARM	ACK PNT	NONE	DC-124 ANNULUS PRESSURE			HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:31:10 AM	ATS_XV12412_CNTRL	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:31:14 AM	ATS_XV12412_CNTRL	CHANGE		NONE	OP	CLOSE		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:31:20 AM	ATS_XV12414_CNTRL	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:31:20 AM	ATS_XV12414_OP	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:31:31 AM	ATS_PI12433	PVHI		H 00	DC-124 ANNULUS PRESSURE	5211.31	PSIA	
OPEN	7-Jan-08	4:32:22 AM	ATS_PI12433	PVHI	ACK	NONE	DC-124 ANNULUS PRESSURE	5211.31	PSIA	HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:32:22 AM	ATS_PI12433	ALARM	ACK PNT	NONE	DC-124 ANNULUS PRESSURE			HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:33:11 AM	ATS_XV12416_CNTRL	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:33:12 AM	ATS_XV12416_OP	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:33:26 AM	ATS_PI12433	PVHI	OK	H 00	DC-124 ANNULUS PRESSURE	2986.97	PSIA	
	7-Jan-08	4:35:00 AM	ATS_XV12413_CNTRL	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
	7-Jan-08	4:35:01 AM	ATS_XV12413_OP	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
	7-Jan-08	4:38:41 AM	ATS_XV12414_CNTRL	CHANGE		NONE	OP	CLOSE		HIGH LEVEL SUBSEA C~
	7-Jan-08	4:38:42 AM	ATS_XV12414_OP	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:39:04 AM	ATS_XV12416_CNTRL	CHANGE		NONE	OP	CLOSE		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:39:04 AM	ATS_XV12416_OP	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:39:17 AM	ATS_PI12433	PVHI		H 00	DC-124 ANNULUS PRESSURE	4324.75	PSIA	
OPEN	7-Jan-08	4:39:19 AM	ATS_XV12412_CNTRL	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:39:20 AM	ATS_XV12412_OP	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:40:00 AM	ATS_PI12433	PVHI	ACK	NONE	DC-124 ANNULUS PRESSURE	4324.75	PSIA	HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:40:00 AM	ATS_PI12433	ALARM	ACK PNT	NONE	DC-124 ANNULUS PRESSURE			HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:42:21 AM	ATS_XV12412_CNTRL	CHANGE		NONE	OP	CLOSE		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:42:22 AM	ATS_XV12412_OP	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:43:31 AM	ATS_PI12433	PVHI	OK	H 00	DC-124 ANNULUS PRESSURE	3635.21	PSIA	
OPEN	7-Jan-08	4:43:43 AM	ATS_XV12413_CNTRL	CHANGE		NONE	OP	CLOSE		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:43:43 AM	ATS_XV12413_OP	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~

XOV Open	DATE	TIME	TAGNAME	CONDITON		PRIORITY	DESCRIPTION	TRIP VALUE	UNITS	
OPEN	7-Jan-08	4:45:03 AM	ATS_XV12414_CNTRL	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
OPEN	7-Jan-08	4:45:03 AM	ATS_XV12414_OP	CHANGE		NONE	OP	OPEN		HIGH LEVEL SUBSEA C~
	7-Jan-08	4:47:35 AM	STATION 5	LOGOUT		J 00	Failed login attempt			.\ps_user
	7-Jan-08	4:47:40 AM	STATION 5	LOGOUT		J 00	Failed login attempt			.\ps_user
	7-Jan-08	4:47:45 AM	STATION 5	LOGOUT		J 00	Failed login attempt			.\ps_user
	7-Jan-08	4:47:56 AM	STATION 5	LOGIN		NONE				Thomas, Dennis
	7-Jan-08	4:49:01 AM	DC-124	DEMAND		J 00	Report 3 demanded			Thomas, Dennis
	7-Jan-08	4:50:19 AM	DC-124	DEMAND		J 00	Report 3 demanded			Thomas, Dennis
	7-Jan-08	4:51:35 AM	ALMEVT	DEMAND		J 00	Report 2 demanded			Thomas, Dennis
	7-Jan-08	5:01:28 AM	ALMEVT	DEMAND		J 00	Report 2 demanded			Thomas, Dennis
	7-Jan-08	5:08:58 AM	ALMEVT	DEMAND		J 00	Report 2 demanded			Thomas, Dennis

From: Oza, Nita
Sent: Wednesday, January 9, 2008 12:41 AM
To: Angel, Keith F <keith.angel@bp.com>; Carlson, Brian H <Brian.Carlson@bp.com>
Subject: Fw: DC 124 valve opening

FYI ...

Further to my note on sand detector being available, please see the note below.

Sent using BlackBerry

----- Original Message -----
From: Oza, Nita
To: Young, Brian J; Berger, Ron K (Manatee); Dean, Wayne (TECHNIP)
Sent: Wed Jan 09 05:34:36 2008
Subject: DC 124 valve opening

A quick note, we had another inadvertent valves opening this evening at 10.10

Talked to Brandon about it and we may need to shutdown the SPCU and restart it again. This may not go down with the PE as they may loss some data

Need to talk this through.

Nita

Sent using BlackBerry

Exhibit 107
Part 4

From: Oza, Nita
Sent: Wednesday, January 09, 2008 7:40:49 PM
To: Oneto, Rick; Todd, Simon P; Broman, William H(HOU)
CC: Berger, Ron K (Manatee); Partridge, April L; Angel, Keith F; Singh, Pramod K; Harrison, Rickey; Orr, Scotty
Subject: RE: DC 124 re start

Simon, Bill,

Following on from the note below, we are still looking into the root cause on why valves have opened on the DC124. However we have a way forward, which may or may not resolve the inadvertent opening of the valves.

Our plan of action is to reset the Prosoft cards on SPCU 1 (subsea power and comms unit) which supports the Man2&4 wells to night. We will watch tonight the development of this reset as we continue to commission DC143. By the morning, if any inadvertent valves have functioned, we will power down the SPCU 1, power it back up and then reset the Prosoft cards again.

We will also put in a subroutine in the HMI to monitor for any inadvertent valve functions. If a valve does function, it will set of an alarm which will indicate to the subsea CRO to attend to the alarm and close the valve.

If all goes well we may in the position to start DC124 tomorrow.

Kind regards

Nita Oza
Atlantis Operations
Onshore Subsea Team Lead
Office: 281 366 3901

From: Oneto, Rick
Sent: Wednesday, January 09, 2008 4:33 PM
To: Todd, Simon P
Cc: Oza, Nita; Broman, William H(HOU); Berger, Ron K (Manatee); Partridge, April L; Angel, Keith F; Singh, Pramod K; Harrison, Rickey
Subject: DC 124 re start

Simon,

An issue has come up regarding well DC 124. It seems that four valves on the tree have been opening without command and we are currently discussing the risks and mitigations. The impact may be a delay to opening of DC 124. Nita is working the issue and talking to Frank Ragan about "manually" locking the valves closed. This would require an MOC if even possible. Since one of the valves is the Annulus Master Valve we have already opened the annulus up to live well fluids a couple of times and quickly flushed the fluid out because we were monitoring the tree. There is also the risk of creating a hydrate in the tree. We will be working the issue until resolved.

Everyone is free to comment.

Thanks,

Rick

From: Oza, Nita
Sent: Wednesday, January 9, 2008 12:35 AM
To: Young, Brian J <Brian.J.Young@bp.com>; Berger, Ron K (Manatee) <ron.berger@bp.com>; Dean, Wayne (TECHNIP) <wdean@technip.com>
Subject: DC 124 valve opening

A quick note, we had another inadvertent valves opening this evening at 10.10

Talked to Brandon about it and we may need to shutdown the SPCU and restart it again. This may not go down with the PE as they may loss some data

Need to talk this through.

Nita

Sent using BlackBerry

From: Brandon Reynolds <brandon.reynolds@mac.com>
Sent: Thursday, January 10, 2008 7:42 AM
To: Oza, Nita <ozan@bp.com>; Young, Brian J <Brian.J.Young@bp.com>; Dean, Wayne (TECHNIP) <wdean@technip.com>; Berger, Ron K (Manatee) <ron.berger@bp.com>
Cc: Byrd, Wanda J <wanda.byrd@bp.com>; Taylor, Elton Z <Elton.Taylor@bp.com>; Orr, Scotty <scotty.orr@bp.com>
Subject: Nightly Report 01/09/08

Commissioning activities completed on DC-143:

1) DCV commissioning on
- CIDV1
- CITV1
- CITV2
- CIDV2
- CIDV3
- CXV
- AWV
- DXV
- AMV
- PMV
- Choke 10% increments

2) Set Up Alarm Set Points

3) Regulatory Testing (day shift did this)

DC-143 To Do:

1) Test ESD
2) PSD & PSL (Hasn't been done on P2 yet)
3) Determine status of SV1 and SV2, AAV, PT5 and PT6
4) DCV commissioning of PIV

Started a list of issues we're having with the control system, at least the ones we had overnight (yellow notepad). We had some alarms for DC-113 SEM voltage, a PV bad value. Occured once on SEM A and twice on SEM B. Another one was related to the pressure rate change on the DC-124 AMV. This is one of the new alarms that Steve Rogers created last night. The DC-124 AMV didn't close according to the DCV PT but the pressure change was around 142 psi or so and this happened three times. Possible we need to modify the criteria for the larger valves.

Lastly we had a PSD on DC-124. This shut down the CXV but not the AMV or SCSSV, as expected. Still not sure what caused this alarm. DC-111 and DC-113 were flowing uninterrupted during the shutdown.

Regards,
Brandon Reynolds
281.249.1871 (work)
(mobile)

Discovery Ex. No. 218
Cause No.
4:09-cv-01193
Abbott v. BP

From: Broman, William H(HOU)
Sent: Wednesday, January 09, 2008 11:01:14 PM
To: Berger, Ron K (Manatee)
CC: Broman, William H(HOU); Oza, Nita
Subject: FTP pressure SD's?

Ron,

I am trying to remember what you had told me a while back so let me try to run this by you.

We do not currently have FTP SD logic in the Atlantis SS control system. Is that correct?

I think you had said we did have FTP alarms. Correct?

I am wondering if we should be looking toward getting FTP SD logic installed in the control system.

At yesterday's performance mgmt meeting I was briefing Simon and others on why we would not want to just wing open the chokes and let wells float on manifold pressure and as I talked about what could happen without FTP SD logic a lot of eyes got pretty big.

Thx

Bill

Bill Broman
Atlantis Subsea Delivery Manager
GOM Deepwater
281-249-1337 office
william.broman@bp.com

From: Berger, Ron K (Manatee)
Sent: Wednesday, January 09, 2008 5:29:38 PM
To: Young, Brian J; Oza, Nita; Ragan, Frank
CC: Dean, Wayne (TECHNIP); Reynolds, Brandon (Technip); 'Rogers, Steven (TX57)'
Subject: RE: Strange Choke Behavior

Have we thought about pulling and resetting the pro-soft cards. I'm shooting in the dark, but we had that weird HMI valve issue once and resetting the card fixed that. I'm wondering if this could be associated with synchronization again.

From: Young, Brian J
Sent: Wednesday, January 09, 2008 4:22 PM
To: Oza, Nita; Berger, Ron K (Manatee); Ragan, Frank
Cc: Dean, Wayne (TECHNIP); Reynolds, Brandon (Technip); Rogers, Steven (TX57)
Subject: Strange Choke Behavior

Nita / Ron / Frank

After the ESD today, the choke on DC-143 had several step open commands. There were actually 3 ESD commands sent between 11:30 am and 1:00 pm. The second two ESD commands were upsets or mistakes while recovering from the initial ESD. Prior to the intial ESD, the CRO commanded the choke to open using direct control to 5%. The initial ESD FC closed the choke from 3% to 2% (LVDT). Then the choke opened to 14%. The second ESD FC closed the choke to 11%. Then the choke opened to 24%. Then the third ESD FC closed the choke to 22%. Then the choke opened to 53%. The CRO did not give any choke commands after the initial ESD. It seems like the control system remembered the command given before the initial ESD and was going to execute it until it reached the desired position. Any thoughts?

<< File: DC-143 choke 1-9-08.ZIP >>
Legend:
red - calculated choke position
Green - LVDT
Aqua - FC
Magenta - LP
Black - PCO

Thanks,
Brian

Brian J. Young
Subsea Engineer
Atlantis Subsea Ops
BP - GoM
Direct: (281) 366-3078
Cell:
Fax: (281) 366-1600
Brian.J.Young@bp.com

From: Ragan, Frank <Frank.Ragan@bp.com>
Sent: Wednesday, January 9, 2008 4:53 PM
To: jon.burghardt@fmcti.com; Knight, Kevin (FMC) <kevin.knight@fmcti.com>
Cc: Oza, Nita <Nita.Oza@bp.com>
Subject: FW: ST Logs
Attach: ST_Logs.zip

Here are the log files. It looks to me like they are the same time stamps as the ones from last night (that would make sense).

I had to get the Smart Tool computer turned on again, so I've asked for them to disconnect the network connection until further notice.

Frank

From: Rogers, Steven (TX57) [mailto:steven.rogers@honeywell.com]
Sent: Wednesday, January 09, 2008 3:42 PM
To: Ragan, Frank
Subject: ST Logs

Frank,

Here are all the logs dated this year

Thanks
Steven Rogers (TX57)
bp Gulf of Mexico - Deep Water Development Projects
Houston - EXPERION PKS® Systems Engineering
✉ [mailto:steven.rogers@honeywell.com]
☎
☎ 832-252-3620 (Honeywell)
☎ 337-735-2230 (bp Atlantis Platform)
DISCLAIMER: The documents and technology referenced, comply with Export Compliance License EAR99. All persons in possession of this information have been cleared through the "Denied Persons List".

Before printing this email, assess if it is really needed.

From: Young, Brian J
Sent: Wednesday, January 09, 2008 4:25:28 PM
To: Berger, Ron K (Manatee); Oza, Nita
CC: Hickok, Doyle D (Technip); Mundorff, Jan; Dean, Wayne (TECHNIP); Reynolds, Brandon (Technip)
Subject: FAMs during SD today

Attachments: DC-111 1-9-08.ZIP; DC-112 1-9-08.ZIP; DC-113 1-9-08.ZIP; DC-123 1-9-08.ZIP; Untitled Attachment

Ron / Nita,
We had an ESD around 11:37am today. Three wells were flowing (DC-111, DC-112, DC-113). All of the FAM's attempted a fast close. FAM's on non-flowing wells also attempted to close. Here is a summary:

DC-111 (FAM worked)
Fast Close closed choke from 48% to 0% in less than 10 seconds

DC-111
1-9-08.ZIP
(70 kB)

DC-112 (FAM failed)
Fast Close closed choke from 41% to 31% and then failed. This left the choke in the 31% position.

DC-112
1-9-08.ZIP
(75 kB)

DC-113 (FAM failed)
Fast Close command failed and did not close the choke. The choke remained at 49%.

DC-113
1-9-08.ZIP
(75 kB)

DC-123 (FAM worked)
Fast Close closed choke from 32% to 1% in less than 10 seconds

DC-123
1-9-08.ZIP
(61 kB)

Trees that already had a 0% choke setting were not listed here.

Thanks,
Brian

Brian J. Young
Subsea Engineer
Atlantis Subsea Ops
BP - GoM
Direct: (281) 366-3078
Cell:
Fax: (281) 366-1600
Brian.J.Young@bp.com

From: Berger, Ron K (Manatee) <ron.berger@bp.com>
Sent: Wednesday, January 9, 2008 11:43 AM
To: Young, Brian J <Brian.J.Young@BP.com>; 'Brandon Reynolds' <brandon.reynolds@mac.com>; Oza, Nita <Nita.Oza@BP.com>; Dean, Wayne (TECHNIP) <wdean@technip.com>
Cc: Byrd, Wanda J <Wanda.Byrd@BP.com>; Taylor, Elton Z <Elton.Taylor@BP.com>; Orr, Scotty <Scotty.Orr@BP.com>
Subject: RE: Nightly Report 01/08/08

Brian, per your and my discussion, could you and elton clarify. It's important to know when it's leaking as it tells us where to start looking (e.g. selector valve leaking or sfl leaking).

-----Original Message-----
From: Young, Brian J
Sent: Wednesday, January 09, 2008 9:54 AM
To: Berger, Ron K (Manatee); 'Brandon Reynolds'; Oza, Nita; Dean, Wayne (TECHNIP)
Cc: Byrd, Wanda J; Taylor, Elton Z; Orr, Scotty
Subject: RE: Nightly Report 01/08/08

When DC-113 is set to LP1 there is a leak, but when DC-113 is set to LP2 there is no leak.

-----Original Message-----
From: Berger, Ron K (Manatee)
Sent: Wednesday, January 09, 2008 9:50 AM
To: Brandon Reynolds; Oza, Nita; Dean, Wayne (TECHNIP); Young, Brian J
Cc: Byrd, Wanda J; Taylor, Elton Z; Orr, Scotty
Subject: RE: Nightly Report 01/08/08

Why do we think the leak is at 113? Can someone provide the details that led us to this conclusion?

-----Original Message-----
From: Brandon Reynolds [mailto:brandon.reynolds@mac.com]
Sent: Wednesday, January 09, 2008 6:36 AM
To: Oza, Nita; Berger, Ron K (Manatee); Dean, Wayne (TECHNIP); Young, Brian J
Cc: Byrd, Wanda J; Taylor, Elton Z; Orr, Scotty
Subject: Nightly Report 01/08/08

Activities completed last night

- DC-114 SFL disconnected from tree and placed in the parking position. Since LP1 vents on the parking position, the SFL was left sitting in the parking slot not engaged.

- Performed leak test on the H6 umbilical after removal of the SFL. LP1 passed (when LP2 was selected at DC-111 and DC-113), HP1 and HP2 passed. LP2 was not completed because when selecting LP1 on DC-111 and DC-113, a leak was noticed. We isolated the leak to be at DC-113.

More testing needs to be done to determine the rate of the leak. It isn't a massive leak but it is noticeable, maybe 2-4 psi per minute.

- DC-123 Commissioning. Auto close operation over 0.2 hr and auto open over 4 hr. GVI of the tree was worked on with a few open items. Need status of the SV1 and SV2, PT5&6.

- At about 10:15 pm or so the AMV closed and DXV and XOV opened, uncommanded. The valves didn't turn green but it was noticed when the PT1 and PT3 pressures equalized. Further review of the DCV PTs proved that the valves moved. There was no commissioning going on at the time of this anomaly. We had finished up work on the auto close over 0.2 hr period at 9:42 pm.

ROV is at DC-123 and available for DC-143 commissioning this morning. Thanks.

Regards,
Brandon Reynolds
281.249.1871 (work)

From: Byrd, Wanda J
Sent: Wednesday, January 09, 2008 7:34:08 AM
To: Oza, Nita
CC: Taylor, Elton Z
Subject: DC-124 valve malfunctions

Nita,

At 22:17 was the only valve malfunction last night. However, at 23:52 another alarm came in on SPCU #1. Now the LIM Alarm is OFF NORMAL for both TEM A & B. The same LIM alarms are also on SPCU #2, but they did not come in last night. I don't believe these alarms are causing the valve malfunctions.

Wanda

From: Angel, Keith F <keith.angel@bp.com>
Sent: Wednesday, January 9, 2008 3:16 AM
To: Oza, Nita <Nita.Oza@bp.com>; Byrd, Wanda J <Wanda.Byrd@bp.com>
Cc: Carlson, Brian H <Brian.Carlson@bp.com>; Sharp, Jerry <Jerry.Sharp@bp.com>
Subject: RE: DC 124 valve opening
Attach: DC124 HCM Incident Trend.ZIP

1. The attached slide describes the incident.

2. Wanda and I agreed that if DC124 shuts in tonight we will not restart it.

3. Please note that DC124 acoustic detector raw counts currently can't be viewed with ProcessNet. We need to make sure DC123 acoustic raw counts can be monitored before start up.

-----Original Message-----
From: Oza, Nita
Sent: Tuesday, January 08, 2008 11:41 PM
To: Angel, Keith F; Carlson, Brian H
Subject: Fw: DC 124 valve opening

FYI ...

Further to my note on sand detector being available, please see the note below.

Sent using BlackBerry

----- Original Message -----
From: Oza, Nita
To: Young, Brian J; Berger, Ron K (Manatee); Dean, Wayne (TECHNIP)
Sent: Wed Jan 09 05:34:36 2008
Subject: DC 124 valve opening

A quick note, we had another inadvertent valves opening this evening at 10.10

Talked to Brandon about it and we may need to shutdown the SPCU and restart it again. This may not go down with the PE as they may loss some data

Need to talk this through.

Nita

Sent using BlackBerry

From: Oza, Nita
Sent: Thursday, January 10, 2008 6:20 PM
To: Malone, Garrick <Garrick.Malone@bp.com>
Subject: RE: pod testing

The gauges on SEM A were not working, and SEMB middle gauge is still not working.

From: Malone, Garrick
Sent: Thursday, January 10, 2008 5:06 PM
To: Oza, Nita
Subject: RE: pod testing

Thanks Nita,

one other question that came up during today's meeting.

As I understand the pod for DC-114 was switched out at some point last year. Prior to the pod swap the downhole gauges weren't reading. Do you know if those gauges are working appropriately now?

thanks,
Garrick

From: Oza, Nita
Sent: Thursday, January 10, 2008 12:22 PM
To: Malone, Garrick; Berger, Ron K (Manatee); Gutierrez, Daniel
Subject: RE: pod testing

Garrick,

All we have is the commissioning data when we came to commissioning the tree. You need to get in touch with John Hughes or Daniel Gutierrez for the details on the history.

A summary of what we saw is below.

1. during the precommissioning we test both SEM A and SEM B, SEM A was not working. None of the functions on SEMA were working, however all the functions were working on SEM B.

2. The DC114 pod was pulled on the 7th December 2007.

let me know if you need any more data....

Nita Oza
Atlantis Operations
Onshore Subsea Team Lead
Office: 281 366 3901

From: Malone, Garrick
Sent: Thursday, January 10, 2008 11:23 AM
To: Oza, Nita; Berger, Ron K (Manatee)

Subject: pod testing

Nita, Ron,

I am going to head over to FMC when they get going on the diagnostics for the pod that was recovered (believe it was DC-114).

I was looking to get up to speed on the history and testing / recovery process from when it was installed and pulled back. Has there already been information pulled together that you know of? I'll also hit up FMC for a Field NCR if they have something like that compiled.

thanks,
Garrick

Garrick Malone
Subsea Engineer
Atlantis - GoM Deepwater
Tel:
e-mail: garrick.malone@bp.com

From: Oza, Nita
Sent: Thursday, January 10, 2008 11:56:41 AM
To: Broman, William H(HOU)
Subject: RE: 143?

We did not see any valves opening during the night.

We are now going to start DC124. Alarms subs routines are being worked with Honeywell and should be in place sometime today.

Nita

From: Broman, William H(HOU)
Sent: Thursday, January 10, 2008 10:00 AM
To: Oza, Nita
Subject: RE: 143?

Great, thx

Sounds like the controls issues may be smoothing out some??

Bill Broman
Atlantis Subsea Delivery Manager
GOM Deepwater
281-249-1337 office
william.broman@bp.com

From: Oza, Nita
Sent: Thursday, January 10, 2008 9:37 AM
To: Broman, William H(HOU)
Subject: RE: 143?

Almost.

We have completed all the valve functions, and the regulator test. All the shutdowns aren't complete yet and will not be done either until P2 is available as we need to test a riser shut in. This should not hold back unloading the well as we can do the P2 riser shut in when P2 is available with either DC123 or DC143.

Nita

From: Broman, William H(HOU)
Sent: Thursday, January 10, 2008 9:16 AM
To: Oza, Nita
Subject: 143?

Did we get close to being done with 143 commissioning?

Bill Broman
Atlantis Subsea Delivery Manager
GOM Deepwater
281-249-1337 office
william.broman@bp.com

From: Broman, William H(HOU)
Sent: Thursday, January 10, 2008 11:01:22 AM
To: Oza, Nita; Berger, Ron K (Manatee)
Subject: FW: DC 124 re start

Fyi, this is a good thing to get done

I will keep nudging it if needed

Bill Broman
Atlantis Subsea Delivery Manager
GOM Deepwater
281-249-1337 office
william.broman@bp.com

From: Oneto, Rick
Sent: Thursday, January 10, 2008 9:28 AM
To: Broman, William H(HOU); Taylor, Alastair
Cc: Berger, Ron K (Manatee)
Subject: RE: DC 124 re start

I agreee with Ron's assertion. I can still remember collapsing a Popeye subsea well back in the 1997-8 time frame do to a similar type event linked to a pigging loop valve failure.

Regards,

Rick Oneto
BP America, Inc.
Operations Manager - Atlantis
281-366-4061 (Office)

From: Broman, William H(HOU)
Sent: Thursday, January 10, 2008 9:12 AM
To: Oneto, Rick; Taylor, Alastair
Subject: FW: DC 124 re start

This is the same item I mentioned in the Tuesday perf mgmt mtg and I think this is a very solid item we should get into our controls sooner rather than later. I believe all of the other producing subsea systems have this in their controls.

Happy to discuss with you if needed.

Bill Broman
Atlantis Subsea Delivery Manager
GOM Deepwater
281-249-1337 office
william.broman@bp.com

From: Berger, Ron K (Manatee)
Sent: Thursday, January 10, 2008 8:16 AM
To: Oza, Nita; Oneto, Rick; Todd, Simon P; Broman, William H(HOU)
Cc: Partridge, April L; Angel, Keith F; Singh, Pramod K; Harrison, Rickey; Orr, Scotty; Ragan, Frank; Taylor, Alastair
Subject: RE: DC 124 re start

I would also like to use this issue to initiate an RFA to allow individual well shut-downs. What I would like is to be able to set low tubing pressure shut-downs on each well. That way, in the future, if the XOV and DXV open, or the choke opens more, or another well shuts-in, the LTP shutdown would protect the completion. I tried to get these in about a year ago but the honeywell folks indicated there were too many road blocks to make it work in the time that was available.

From: Oza, Nita
Sent: Wednesday, January 09, 2008 6:41 PM
To: Oneto, Rick; Todd, Simon P; Broman, William H(HOU)
Cc: Berger, Ron K (Manatee); Partridge, April L; Angel, Keith F; Singh, Pramod K; Harrison, Rickey; Orr, Scotty
Subject: RE: DC 124 re start

Simon, Bill,

Following on from the note below, we are still looking into the root cause on why valves have opened on the DC124. However we have a way forward, which may or may not resolve the inadvertent opening of the valves.

Our plan of action is to reset the Prosoft cards on SPCU 1 (subsea power and comms unit) which supports the Man2&4 wells to night. We will watch tonight the development of this reset as we continue to commission DC143. By the morning, if any inadvertent valves have functioned, we will power down the SPCU 1, power it back up and then reset the Prosoft cards again.

We will also put in a subroutine in the HMI to monitor for any inadvertent valve functions. If a valve does function, it will set of an alarm which will indicate to the subsea CRO to attend to the alarm and close the valve.

If all goes well we may in the position to start DC124 tomorrow.

Kind regards

Nita Oza
Atlantis Operations
Onshore Subsea Team Lead
Office: 281 366 3901
Cell:

From: Oneto, Rick
Sent: Wednesday, January 09, 2008 4:33 PM
To: Todd, Simon P
Cc: Oza, Nita; Broman, William H(HOU); Berger, Ron K (Manatee); Partridge, April L; Angel, Keith F; Singh, Pramod K; Harrison, Rickey
Subject: DC 124 re start

Simon,

An issue has come up regarding well DC 124. It seems that four valves on the tree have been opening without command and we are currently discussing the risks and mitigations. The impact may be a delay to opening of DC 124. Nita is working the issue and talking to Frank Ragan about "manually" locking the valves closed. This would require an MOC if even possible. Since one of the valves is the Annulus Master Valve we have already opened the annulus up to live well fluids a couple of times and quickly flushed the fluid out because we were monitoring the tree. There is also the risk of creating a hydrate in the tree. We will be working the issue until resolved.

Everyone is free to comment.

Thanks,

Rick

From: Oza, Nita
Sent: Tuesday, January 15, 2008 3:49:40 PM
To: Lowe, Jon D; Sharp, Jerry; Angel, Keith F; Carlson, Brian H; Young, Brian J; Berger, Ron K (Manatee); Kahlden, Ken M (Clover); Roades, Barth L; Herrmann, Douglas T; Powell, Kevin J
CC: Broman, William H(HOU)
Subject: Shutdowns for DC123, DC143

Jerry, Jon,

Following on from this morning conversations with regards to shut in for PBU for DC123 and DC143.
I would like to bring to your notice that we still have IWLs on both DC123 and DC143 to commission the shutdown logics as they were not carried out as P2 riser was not available. In the subsea schedule this is to be carried out as soon as the P2 riser is available (circa 27th Jan).

Nita Oza
Atlantis Operations
Onshore Subsea Team Lead
Office: 281 366 3901

Discovery Ex. No. 219
Cause No.
4:09-cv-01193
Abbott v. BP

From: Young, Brian J
Sent: Tuesday, January 15, 2008 12:05 PM
To: Oza, Nita
Cc: Berger, Ron K (Manatee); Dean, Wayne (TECHNIP); Reynolds, Brandon (Technip); Ragan, Frank
Subject: DC-143 choke movements following an ESD - bug found

Nita,
Steven Rogers found a bug in the code to explain why the choke opened after an ESD. He fixed the code and we should not have any more problems with that. We are looking at testing it again when the well is shut-in for the PBU. Steven verified that the other wells did not have the same problem.

Witnessed Problems:

On Wednesday January 9th the DC-143 choke opened after a platform ESD (1100).
On Saturday January 12th the DC-143 choke opened after a Test ESD (0800).

Thanks,
Brian

Brian J. Young
Subsea Engineer
Atlantis Subsea Ops
BP - GoM
Direct: (281) 366-3078
Cell:
Fax: (281) 366-1600
Brian.J.Young@bp.com

From: Rogers, Steven (TX57) <steven.rogers@honeywell.com>
Sent: Wednesday, January 16, 2008 9:22 PM
To: Carlson, Brian H <Brian.Carlson@bp.com>; Dean, Wayne (TECHNIP) <wdean@technip.com>; Ragan, Frank <Frank.Ragan@bp.com>; mickey.cotham@fmcti.com
Cc: Oza, Nita <Nita.Oza@bp.com>; Young, Brian J <Brian.J.Young@bp.com>; Whitehead, David K (Technip) <David.Whitehead@bp.com>; mvass@technip.com; Reynolds, Brandon (Technip) <brreynolds@technip.com>; Sun, Henry H (HONEYWELL IND. AUTO. and CNTR) <Henry.Sun2@honeywell.com>
Subject: RE: DHPT Time-Stamp Problems DC-124
Attach: DC124_DC143_DHPG_Data.xls

Brian,

Attached are screen captures and data from both Experion and PHD, I've only included the DHPG's on these trends.

I will add fast history (1 sec snapshots) to all the DHPT tags in Experion, in PHD we are collecting at 2 secs.

Thanks
Steven Rogers (TX57)
bp Gulf of Mexico - Deep Water Development Projects
Houston - EXPERION PKS® Systems Engineering
✉ [mailto:steven.rogers@honeywell.com]
☎
☎ 832-252-3620 (Honeywell)
☎ 337-735-2230 (bp Atlantis Platform)
DISCLAIMER: The documents and technology referenced, comply with Export Compliance License EAR99. All persons in possession of this information have been cleared through the "Denied Persons List".

Before printing this email, assess if it is really needed.

From: Carlson, Brian H [mailto:Brian.Carlson@bp.com]
Sent: Wednesday, January 16, 2008 1:46 PM
To: Dean, Wayne (TECHNIP); Ragan, Frank; mickey.cotham@fmcti.com
Cc: Rogers, Steven (TX57); Oza, Nita; Young, Brian J; Whitehead, David K (Technip); mvass@technip.com; Reynolds, Brandon (Technip)
Subject: RE: DHPT Time-Stamp Problems DC-124

Attached are two slides showing the wells with this problem, DC124 and DC143. The sem A gauge data response is 3-5 minutes behind (choke, wellhead gauges, and sem B all respond correctly at the same time).

From: WDean@technip.com [mailto:WDean@technip.com]
Sent: Wednesday, January 16, 2008 11:43 AM
To: Ragan, Frank; mickey.cotham@fmcti.com
Cc: steven.rogers@honeywell.com; Oza, Nita; Young, Brian J; Whitehead, David K (Technip); mvass@technip.com; Reynolds, Brandon (Technip); Carlson, Brian H
Subject: DHPT Time-Stamp Problems DC-124
Importance: High

Frank and Mickey,

Please find attached a Word document describing the current observations on the DHPT data on DC-124. I know that the ESLIC board reads the DHPT data at approximately 1-sec intervals but the interface between FMC and SLB and Honeywell does not do this unless the SEM is placed in "Fast-Scan". FMC setup for the SLB requires three addresses be designated for each DHPT sensor. For single gauge sensors, "nulls" are put in the other two address locations. From ETU observations at FMC it seemed like three addresses are time-multiplexed such that the Upper gauge is read first for about 7-10 seconds, then the Mid gauge is read for about the same time, and then the Bottom gauge is read for about the same time. The multiplexor then returns to the Upper gauge.

Please advise how and when each of FMC and Honeywell handle the DHPT data.

Wayne

From: Sun, Henry (TX57) <Henry.Sun2@honeywell.com>
Sent: Saturday, January 19, 2008 10:15 AM
To: Young, Brian J <Brian.J.Young@bp.com>; Dean, Wayne (TECHNIP) <wdean@technip.com>
Cc: Rogers, Steven (TX57) <steven.rogers@honeywell.com>; Oza, Nita <Nita.Oza@BP.com>
Subject: FW: DHPT Time-Stamp Problems DC-124

Brian, Wayne,

Can we have FMC to verify that the SEM time, TEM time matches up with Experion Subsea station time? It's possible that the timing if off between the systems and here is the section of Ed Sarlls' comments:

It's possible the actual packets may not be identical as the commands to the SEM's are not sent at exactly the same time, but they should be close. (<10S)
The data for a specific time should correlate between the paths.

If the SEM time's are off, review the time sync process to verify it's getting set properly in all devices.

Thanks,
Henry

From: Sarlls, Ed (TX57)
Sent: Friday, January 18, 2008 12:18 PM
To: Sun, Henry (TX57)
Cc: Rogers, Steven (TX57)
Subject: RE: DHPT Time-Stamp Problems DC-124

Henry & Steve,

Set the VSDD Debug Level to 60.
This will print the information about each packet that is received from the TEM, including the time stamp.
Turn on a Fast Scan and let it run a few minutes.
Trend the data at 1 Second starting and ending a few minutes beyond the Fast Scan period. Capture this to Excel.

The log file will show the data being returned and its associated SEM timestamp.
Verify timestamp for TEM-A and TEM-B data.
It's possible the actual packets may not be identical as the commands to the SEM's are not sent at exactly the same time, but they should be close. (<10S)
The data for a specific time should correlate between the paths.

If the SEM time's are off, review the time sync process to verify it's getting set properly in all devices.

The trend should indicate slow periodic changes before and after the Fast Scan period (~6S?) and one-second changes during Fast Scan.

Regards,
Ed Sarlls / ed.sarlls@honeywell.com / Project Engineer / 832-252-3963
Honeywell Process Solutions / 1250 W Sam Houston S Pkwy / Houston, TX 77042

From: WDean@technip.com
Sent: Wednesday, January 23, 2008 12:47 PM
To: Young, Brian J <brian.j.young@bp.com>
Cc: Oza, Nita <nita.oza@bp.com>; Whitehead, David K (Technip) <david.whitehead@bp.com>
Subject: Fw: BP Atlantis Communication Issue

Brian,

We should keep an eye on DC-123 as this is the only well we have running on SEM A from this SBC-1A in SPCU-1. I will look at trends of the down-hole data to see if the resetting we did corrected the phase shift that we experienced earlier. Also the LIM alarms. If we arrange an FMC hand for troubleshooting I guess it will be prudent if any of these things re-appear, and the sparadic valve operation also.

Wayne

Find attached a note from Jon Burghardt concerning our earlier questions. I will respond to Jon today.

Wayne ,

Please see my comments below.

Thanks,

Jon Burghardt
Subsea Controls Product Engineer
E: jon.burghardt@fmcti.com | Ofc: 281-591-4310 | Pgr:

FMC Technologies, Inc
1777 Gears Rd | Houston , TX 77067 | USA
P: 281 591 4400 | F: 281 591 4548
www.fmctechnologies.com

This communication (and/or the documents accompanying it) may contain confidential information belonging to the sender or intended recipient. The information is intended solely for the use of the individual or entity named above. If you are not the intended recipient, you are hereby notified that any disclosure, copying, distribution or the taking of any action in reliance on the contents of this information is strictly prohibited. If you receive this communication in error, please notify us immediately by telephone to arrange for the return of the documents.

From: WDean@technip.com [mailto:WDean@technip.com]
Sent: Tuesday, January 22, 2008 9:10 AM

To: Burghardt, Jon
Cc: brian.j.young@BP.COM
Subject: mcs spcu st qUESTIONS
Importance: High

10 January 2008

Mickey and Ross,

We have several questions we would like to ask you:

- Where are the Smart Tool (ST) Command Logs created and stored? Are these commands stored in the Single Board Computer (SBC) or by, and within, the Smart Tool program, i.e. the ST PC. I guess the real question is, do we have to have ST running on its PC in order to build and store the ST Command Log?

-The command log is created by the SmartTool computer and that is where it is stored. It logs commands only when SmartTool Server, SmartTool Application and has a valid connection to the TPU.

- We have passed on through Bruce the unusual amount of Low Insulation Monitor (LIM) alarms on each of the SPCUs. We can Reset this alarm on the SPCU front panel by depressing the Reset button. This normally clears the LIM alarm (one Reset button for each SPCU) for a day or two, but the alarm ALLWAYS comes back. This requires sending an Automation Technician (AT) up to the PTW room to investigate this alarm. Upon cycling through the individual lines monitoring the Insulation Resistance we have been finding no lines in a fault condition. Is noise or timing of the LIM too sensitive? It is a major inspection task to be continually (or at least regularly) sending an AT to investigate the alarm and every time found no Insulation Resistance problems which triggered the alarm. <u>This is a major glitch!</u>

-This is a very important point since more than just going to reset the alarm is at issue: the set point for the alarm is too low ~or~ there is an actual wiring failure. On the next trip to the platform, we will have a technician or engineer check this. We will also need to look into the make and model of the LIM.

- Who should be accountable for keeping the Smart Tool CLOCK ?????? synchronized to daylight savings time or standard time? Is this clock in the ST program itself or is it the PC Microsoft clock? Likewise, the maintenance and upgrades to the ST PC antivirus software is to be maintained by whom? The Automation Department is not responsible for systems that are not fully compatible with their Honeywell/Allen Bradley networking devices, i.e. IP addresses of ST PC not compatible with BP networking and anti-virus sub-systems.

-The SPCU synchronizes the TPU; the TPU synchronizes the SEM and the SEM synchronizes the DHI card clock. The SPCU has a clock which receives a synch from external (normally the SmartTool) but must be commanded since it is not automated.

-The Automation Department has connected the SmartTool PC to their router. However, the SmartTool PC should be isolated. At this time, we are uncertain of the impacts of this connection on the subsea system but it is possible that the TPU is acting on information which is on the network regardless of whether this information is an actual subsea command. Installing a second NIC in the SmartTool computer and connecting it to the network has been FMCâ€™s recommendation in the past and we stand by it. Any commands that are received by the second NIC will be isolated to the SmartTool computer rather than being possibly broadcast to the TPUs.

- In FMC document No. OPR10009845, dated 20-Oct-2006, please add the following bulleted sentence after Item 26 of Section 2.1: START-UP FROM PLANNED SHUTDOWN and after Item 22 of Section 2.2 -START-UP FROM UNPLANNED SHUTDOWN:
  - On :place Atlantis :City PQ :State , advise the Automation Department that power has been restored to the SPCUs. and that the ProSoft MVI boards within the SCU MUST be reset after power has been restored to a SPCU. This is an Automation Department function and shall be done before error-free commands can be issued via the Subsea HMI.through the FMC SPCU to the associated SEM.

This resetting of the ProSoft MVI boards by the vessel Automation Department is necessary for proper interface assurance between the Topsides system and the Subsea system. The SPCU documentation must contain reference to these third party requirements for confident operations between the SPCU and the SEM via a Topsides interface. This OPC document is for the Subsea Department and should advise them to contact the Automation Department for these additional Start-Up requirements.

-FMC will not incorporate instructions on ProSoft equipment â€“ these are outside of FMCâ€™s scope. If we are able, we will make the changes you request with respect to section headings/titles.

- Has the inspection of the ST command logs shown anything that indicates that the spurious commands to Open valves were issued by or through the Smart Tool (ST). Jon and Kevin were to investigate and compare with the Honeywell HMI Alarm Logs that were given to them 010808. This bullet and the first bullet above are related and MUST be resolved before BP will feel secure in keeping the ST On-Line!

-All information that we currently have on this matter has been referred to the product group in Norway ; they have been investigating this matter for at least one week in their lab with both a SEM and a TPU. There are no meaningful results at this point. FMC Houston Subsea Controls Product Group is the focal point for all information to and from FMC Norway and will ensure that results are sent when they become available.

--Jon

Wayne

-----Forwarded by Wayne Dean/AMERICA on 01/23/2008 11:37AM -----

To: <WDean@technip.com>
From: "Kamau, Polycarp" <Polycarp.Kamau@fmcti.com>
Date: 01/23/2008 10:26AM
cc: "Burghardt, Jon" <Jon.Burghardt@fmcti.com>, "Leal, JJ" <JJ.Leal@fmcti.com>, "Maughs, Bruce" <Bruce.Maughs@fmcti.com>, "Nehra, Aneet" <Aneet.Nehra@fmcti.com>, "Hendricks, Ross" <Ross.Hendricks@fmcti.com>

Subject: BP Atlantis Communication Issue

Wayne ,

This email is a follow-up to our conversation earlier regarding the problem that occurred on January 21 st , 2008. As we discussed, we have not been able to determine what the cause of the alarms you were seeing on the HMI. During the visit to west lake, we noted that the HMI was obtaining updates on subsea data while Smart Tool was having an intermittent connection with SBC 1A on SPCU C1. We would like to have our personnel go to the platform and monitor the system and gather more information while operations are conducted as normal. This trip will need to be scheduled to ensure availability of the right personnel. This will also be an opportune time to address some of the other concerns you have raised regarding DH Gauge Data on DC124.

Very Respectfully,

Polycarp Kamau
Customer Support | Field Engineer
E: Polycarp.Kamau@fmcti.com | **P: 281 405 2228 | C:**

FMC Technologies, Inc
1777 Gears Rd | Houston , TX | 77067 USA
P: 281 591 4000 | F: 281 591 3884
www.fmctechnologies.com

This communication (and/or the documents accompanying it) may contain confidential information belonging to the sender or intended recipient. The information is intended solely for the use of the individual or entity named above. If you are not the intended recipient, you are hereby notified that any disclosure, copying, distribution or the taking of any action in reliance on the contents of this information is strictly prohibited. If you receive this communication in error, please notify us immediately by telephone to arrange for the return of the documents.

From: WDean@technip.com
Sent: Tuesday, January 29, 2008 2:18 PM
To: Jon.Burghardt@fmcti.com
Cc: Dean, Wayne (TECHNIP) <WDean@technip.com>; Reiff, Greg <Gregory.Reiff@fmcti.com>; Knight, Kevin (FMC) <Kevin.Knight@fmcti.com>; Furneaux, Dale (FMC) <Dale.Furneaux@fmcti.com>; Cotham, Mickey <Mickey.Cotham@fmcti.com>; Hendricks, Ross <Ross.Hendricks@fmcti.com>; Nehra, Aneet <Aneet.Nehra@fmcti.com>; Kamau, Polycarp <Polycarp.Kamau@fmcti.com>; Maughs, Bruce <Bruce.Maughs@fmcti.com>; Leal, JJ (FMC) <JJ.Leal@fmcti.com>; mvoss@technip.com; Young, Brian J <brian.j.young@bp.com>; Oza, Nita <nita.oza@bp.com>; Whitehead, David K (Technip) <david.whitehead@bp.com>; Reynolds, Brandon (Technip) <brreynolds@technip.com>; Mundorff, Jan <jan.mundorff@bp.com>; Hickok, Doyle D (Technip) <doyle.hickok@bp.com>
Subject: RE: MCS SPCU ST Questions
Attach: Reply to Jon Burghardt.rtf

Jon,

Please find comments attached.

Wayne

-----"Burghardt, Jon" <Jon.Burghardt@fmcti.com> wrote: -----

> To: <WDean@technip.com>
> From: "Burghardt, Jon" <Jon.Burghardt@fmcti.com>
> Date: 01/22/2008 01:54PM
> cc: "Reiff, Greg" <Gregory.Reiff@fmcti.com>, "Knight, Kevin" <Kevin.Knight@fmcti.com>, "Furneaux, Dale" <Dale.Furneaux@fmcti.com>, "Cotham, Mickey" <Mickey.Cotham@fmcti.com>, "Hendricks, Ross" <Ross.Hendricks@fmcti.com>, "Nehra, Aneet" <Aneet.Nehra@fmcti.com>, "Kamau, Polycarp" <Polycarp.Kamau@fmcti.com>, "Maughs, Bruce" <Bruce.Maughs@fmcti.com>, "Leal, JJ" <JJ.Leal@fmcti.com>
> Subject: RE: MCS SPCU ST Questions
>
> Wayne ,
>
> Please see my comments below.
>
> Thanks,
>
> Jon Burghardt
> Subsea Controls Product Engineer
> E: jon.burghardt@fmcti.com | Ofc: 281-591-4310 | Pgr: .
>
> **FMC Technologies, Inc**
> 1777 Gears Rd | Houston , TX 77067 | USA

P: 281 591 4400 | F: 281 591 4548
www.fmctechnologies.com

This communication (and/or the documents accompanying it) may contain confidential information belonging to the sender or intended recipient. The information is intended solely for the use of the individual or entity named above. If you are not the intended recipient, you are hereby notified that any disclosure, copying, distribution or the taking of any action in reliance on the contents of this information is strictly prohibited. If you receive this communication in error, please notify us immediately by telephone to arrange for the return of the documents.

From: WDean@technip.com [mailto:WDean@technip.com]
Sent: Tuesday, January 22, 2008 9:10 AM
To: Burghardt, Jon
Cc: brian.j.young@BP.COM
Subject: mcs spcu st qUESTIONS
Importance: High

10 January 2008

Mickey and Ross,

We have several questions we would like to ask you:

- Where are the Smart Tool (ST) Command Logs created and stored? Are these commands stored in the Single Board Computer (SBC) or by, and within, the Smart Tool program, i.e. the ST PC. I guess the real question is, do we have to have ST running on its PC in order to build and store the ST Command Log?

-The command log is created by the SmartTool computer and that is where it is stored. It logs commands only when SmartTool Server, SmartTool Application and has a valid connection to the TPU.

- We have passed on through Bruce the unusual amount of Low Insulation Monitor (LIM) alarms on each of the SPCUs. We can Reset this alarm on the SPCU front panel by depressing the Reset button. This normally clears the LIM alarm (one Reset button for each SPCU) for a day or two, but the alarm ALLWAYS comes back. This requires sending an Automation Technician (AT) up to the PTW room to investigate this alarm. Upon cycling through the individual lines monitoring the Insulation Resistance we have been finding no lines in a fault condition. Is noise or timing of the LIM too sensitive? It is a major inspection task to be continually (or at least regularly) sending an AT to investigate the alarm and every time found no Insulation Resistance problems which triggered the alarm. This is a major glitch!

-This is a very important point since more than just going to reset the alarm is at issue: the set point for the alarm is too low ~or~ there is an actual wiring failure. On the next trip to the platform, we will have a technician or engineer check this. We will also need to look into the make and model of the LIM.

- Who should be accountable for keeping the Smart Tool CLOCK ?????? synchronized to daylight savings time or standard time? Is this clock in the ST program itself or is it the PC Microsoft clock? Likewise, the maintenance and upgrades to the ST PC antivirus software is to be maintained by whom? The Automation Department is not responsible for systems that are not fully compatible with their Honeywell/Allen Bradley networking devices, i.e. IP addresses of ST PC not compatible with BP networking and anti-virus sub-systems.

-The SPCU synchronizes the TPU; the TPU synchronizes the SEM and the SEM synchronizes the DHI card clock. The SPCU has a clock which receives a synch from external (normally the SmartTool) but must be commanded since it is not automated.

-The Automation Department has connected the SmartTool PC to their router. However, the SmartTool PC should be isolated. At this time, we are uncertain of the impacts of this connection on the subsea system but it is possible that the TPU is acting on information which is on the network regardless of whether this information is an actual subsea command. Installing a second NIC in the SmartTool computer and connecting it to the network has been FMCâ€™s recommendation in the past and we stand by it. Any commands that are received by the second NIC will be isolated to the SmartTool computer rather than being possibly broadcast to the TPUs.

- In FMC document No. OPR10009845, dated 20-Oct-2006, please add the following bulleted sentence after Item 26 of Section 2.1: START-UP FROM PLANNED SHUTDOWN and after Item 22 of Section 2.2 -START-UP FROM UNPLANNED SHUTDOWN:
  - On :place Atlantis :City PQ :State , advise the Automation Department that power has been restored to the SPCUs. and that the ProSoft MVI boards within the SCU MUST be reset after power has been restored to a SPCU. This is an Automation Department function and shall be done before error-free commands can be issued via the Subsea HMI.through the FMC SPCU to the associated SEM.

This resetting of the ProSoft MVI boards by the vessel Automation Department is necessary for proper interface assurance between the Topsides system and the Subsea system. The SPCU documentation must contain reference to these third party requirements for confident operations between the SPCU and the SEM via a Topsides interface. This OPC document is for the Subsea Department and should advise them to contact the Automation Department for these additional Start-Up requirements.

-FMC will not incorporate instructions on ProSoft equipment â€" these are outside of FMCâ€™s scope. If we are able, we will make the changes you request with respect to section headings/titles.

- Has the inspection of the ST command logs shown anything that indicates that the spurious commands to Open valves were issued by or through the Smart Tool (ST). Jon and Kevin were to investigate and compare with the Honeywell HMI Alarm Logs that were given to them 010808. This bullet and the first bullet above are related and MUST be resolved before BP will feel secure in keeping the ST On-Line!

-All information that we currently have on this matter has been referred to the product group in Norway ; they have been investigating this matter for at least one week in their lab with both a SEM and a TPU. There are no meaningful results at this point. FMC Houston Subsea Controls Product Group is the focal point for all information to and from FMC Norway and will ensure that results are sent when they become available.

--Jon

Wayne

From: Ragan, Frank
Sent: Monday, February 11, 2008 1:38:15 PM
To: Dean, Wayne (TECHNIP)
CC: Young, Brian J; Oza, Nita; Berger, Ron K (Manatee); Vass, Malcolm (Technip); Reynolds, Brandon (Technip)
Subject: RE: Black start on the 10th Feb

Wayne,

Cabinets CAB-J311 and CAB-J326 get 24VDC from DPE-5504-A and DPN-5504-B (shown on your attached drawing). These are chargers, one on the emergency bus and the other on normal, that feed separate battery banks. Neither of those supplies should lose power during a turbine trip (the DPN goes on batteries), and we witnessed no problems with the other equipment on the same supplies (the topsides' ESS and PSS are fed from the same distribution panels).

As for shutdown events, the capture below is from the Topsides' Experion Server (I have extracted sections of the event file that are not contiguous, we had thousands of events at the time of the shutdown):

11-Feb-08 12:05:36 RPT001: ALMEVT : Demanded : Page 5

Time	Source	Condition	Value	Units	Level	Operator	Description
10-Feb-08 09:24:56.207	**ATT_XY000504_STS**	**CHANGE**	**DE-ENERG**		**J 00**	**PSD SIGNAL TO SUBSEA**	
10-Feb-08 09:24:56.207	ATT_GRP_0003_01_STS	CHANGE	PSD		J 00	PROCESS SHUTDOWN	
10-Feb-08 09:24:56.207	ATT_GRP_0005_04_STS	CHANGE	GRP_TRIP		J 00	PSD SIGNAL TO SUBSEA	
10-Feb-08 09:24:57.207	ATT_XY000506_STS	CHANGE	DE-ENERG		J 00	TEST RISER (T) S/D TO SUBSEA	
10-Feb-08 09:24:57.207	ATT_XY000526_STS	CHANGE	DE-ENERG		J 00	TOPSIDES OSD TO SS	
10-Feb-08 09:24:57.207	ATT_XY000512_STS	CHANGE	DE-ENERG		J 00	RISER P2 S/D TO SUBSEA	
10-Feb-08 09:24:57.207	ATT_XY000514_STS	CHANGE	DE-ENERG		J 00	RISER P3 S/D TO SUBSEA	
10-Feb-08 09:24:57.207	ATT_XY000510_STS	CHANGE	DE-ENERG		J 00	RISER P1 S/D TO SUBSEA	
10-Feb-08 09:24:57.207	ATT_XY000503_STS	CHANGE	DE-ENERG		J 00	WTR INJ RSR PSL TO SUBSEA	
10-Feb-08 09:24:57.207	ATT_GRP_0005_06_STS	CHANGE	GRP_TRIP		J 00	TEST RIST (T) S/D TO SUBSEA	
10-Feb-08 09:24:57.207	ATT_GRP_0005_03_STS	CHANGE	GRP_TRIP		J 00	WATER INJ RISER S/D TO SUBSEA	
10-Feb-08 09:24:57.207	ATT_GRP_0005_14_STS	CHANGE	GRP_TRIP		J 00	PROD RISER (P3) S/D TO SUBSEA	
10-Feb-08 09:24:57.207	ATT_GRP_0005_10_STS	CHANGE	GRP_TRIP		J 00	PROD RISER (P1) S/D TO SUBSEA	
10-Feb-08 09:24:57.207	ATT_GRP_0005_12_STS	CHANGE	GRP_TRIP		J 00	PROD RISER (P2) S/D TO SUBSEA	
10-Feb-08 09:24:57.207	ATT_GRP_0005_26_STS	CHANGE	GRP_TRIP		J 00	TOPSIDES OSD TO SS	

And then from the Subsea Experion Server:

11-Feb-08 12:09:13 RPT002: ALMEVT : Demanded : Page 4

Time	Source	Condition	Value	Units	Level	Operator	Description
10-Feb-08 09:24:57.000	ATS_YY12372	ALARM	SHUTDOWN		U 00	DC-123 WELL PIPELINE SD	
10-Feb-08 09:24:57.000	ATS_YY14372	ALARM	SHUTDOWN		U 00	DC-143 WELL PIPELINE SD	
10-Feb-08 09:24:57.000	ATS_XV14309_INTLK	ALARM			J 00	DC-143 MEOH TREE -	

```
UPSTREAM CHOKE (CITV2)                    INTLK
 10-Feb-08  09:24:57.000 ATS_XV14309_SD
UPSTREAM CHOKE (CITV2)                    SD
 10-Feb-08  09:24:57.000 ATS_XV14311_INTLK
INHIBITOR - TREE (CITV1)                  INTLK
 10-Feb-08  09:24:57.000 ATS_XV14311_SD
INHIBITOR - TREE (CITV1)                  SD
 10-Feb-08  09:24:57.000 ATS_YYSC005
SD                                        SHUTDOWN
 10-Feb-08  09:24:57.000 ATS_YYSC006
PSD                                       SHUTDOWN
 10-Feb-08  09:24:57.000 ATS_YYSC003
SD                                        SHUTDOWN
 10-Feb-08  09:24:57.000 ATS_YYSC004
TOPSIDES                                  SHUTDOWN
 10-Feb-08  09:24:57.000 ATS_XYSC003
SD                                        SHUTDOWN
 10-Feb-08  09:24:57.000 ATS_XYSC004
PSD                                       SHUTDOWN
 10-Feb-08  09:24:58.000 ATS_XV12309_INTLK
UPSTREAM CHOKE (CITV2)                    INTLK
 10-Feb-08  09:24:58.000 ATS_XV12309_SD
UPSTREAM CHOKE (CITV2)                    SD
 10-Feb-08  09:24:58.000 ATS_XV12311_INTLK
INHIBITOR - TREE (CITV1)                  INTLK
 10-Feb-08  09:24:58.000 ATS_XV12311_SD
INHIBITOR - TREE (CITV1)                  SD
 10-Feb-08  09:24:58.000 ATS_HCV12317_SD
SHUTDOWN                                  SD
 10-Feb-08  09:24:58.000 ATS_YY12472
SD                                        SHUTDOWN
 10-Feb-08  09:24:58.000 ATS_HCV12417_STEPMODE
STEPMODE                                  STEPCLOS
 10-Feb-08  09:24:58.000 ATS_XV12409_INTLK
UPSTREAM CHOKE (CITV2)                    INTLK
 10-Feb-08  09:24:58.000 ATS_XV12409_SD
UPSTREAM CHOKE (CITV2)                    SD
 10-Feb-08  09:24:58.000 ATS_XV12411_INTLK
INHIBITOR - TREE (CITV1)                  INTLK
 10-Feb-08  09:24:58.000 ATS_XV12411_SD
INHIBITOR - TREE (CITV1)                  SD
 10-Feb-08  09:24:58.000 ATS_HCV12417_INTLK
INTERLOCK                                 INTLK
 10-Feb-08  09:24:58.000 ATS_HCV12417_SD
SHUTDOWN                                  SD
 10-Feb-08  09:24:58.000 ATS_HCV14317_INTLK
INTERLOCK                                 INTLK
 10-Feb-08  09:24:58.000 ATS_HCV14317_SD
SHUTDOWN                                  SD
 10-Feb-08  09:24:58.000 ATS_HCV14317_STEPMODE
STEPMODE                                  STEPCLOS
 10-Feb-08  09:24:58.000 ATS_SC006_A2
SHUTDOWN A2                               SHUTDOWN
 10-Feb-08  09:24:58.000 ATS_SC005_A2
SHUTDOWN A2                               SHUTDOWN
 10-Feb-08  09:24:58.000 ATS_MANFLD00_MENU
MANIFOLD PAGE 00                          SHUTDOWN
 10-Feb-08  09:24:58.000 ATS_MANFLD03_MENU
MANIFOLD PAGE 03                          SHUTDOWN
 10-Feb-08  09:25:00.000 ATS_XV12310_INTLK
DOWNSTREAM CHOKE (CITV3)                  INTLK
 10-Feb-08  09:25:01.000 ATS_XV12307_SD
DOWNHOLE (CIDV3)                          SD
 10-Feb-08  09:25:01.000 ATS_XV12308_SD
INHIBITOR - DOWNHOLE (CIDV1)              SD
 10-Feb-08  09:25:01.000 ATS_DC123_A3
SHUTDOWN                                  SHUTDOWN
 10-Feb-08  09:25:01.000 ATS_DC124_A2
SHUTDOWN                                  SHUTDOWN
 10-Feb-08  09:25:01.000 ATS_XV12407_SD
DOWNHOLE (CIDV3)                          SD
 10-Feb-08  09:25:01.000 ATS_XV12408_SD
INHIBITOR - DOWNHOLE (CIDV1)              SD
 10-Feb-08  09:25:01.000 ATS_XV12410_INTLK
DOWNSTREAM CHOKE (CITV3)                  INTLK
 10-Feb-08  09:25:01.000 ATS_HCV12417_STAT
STATUS                                    UNDETER
 10-Feb-08  09:25:01.000 ATS_DC143_A3
SHUTDOWN                                  SHUTDOWN
```

```
ALARM    J 00  DC-143 MEOH TREE -
ALARM    J 00  DC-143 PARAFFIN
ALARM    J 00  DC-143 PARAFFIN
ALARM    U 00  TEST FL T PSL
ALARM    U 00  TEST FL T
ALARM    U 00  WATER INJ FL W2 PSL
ALARM    U 00  PSD FROM
CHANGE   J 00  WATER INJ FL W2 PSL
CHANGE   J 00  TOPSIDES
ALARM    J 00  DC-123 MEOH TREE -
ALARM    J 00  DC-123 MEOH TREE -
ALARM    J 00  DC-123 PARAFFIN
ALARM    J 00  DC-123 PARAFFIN
ALARM    J 00  DC-123  CHOKE
ALARM    U 00  DC-124 WELL PIPELINE
CHANGE   J 00  DC-124  CHOKE
ALARM    J 00  DC-124 MEOH TREE -
ALARM    J 00  DC-124 MEOH TREE -
ALARM    J 00  DC-124 PARAFFIN
ALARM    J 00  DC-124 PARAFFIN
ALARM    J 00  DC-124  CHOKE
ALARM    J 00  DC-124  CHOKE
ALARM    J 00  DC-143  CHOKE
ALARM    J 00  DC-143 CHOKE
CHANGE   J 00  DC-143 CHOKE
CHANGE   J 00  RISER TEST T PROCESS
CHANGE   J 00  RISER TEST T PSL
CHANGE   J 00  SHUTDOWN ACTIVE ON
CHANGE   J 00  SHUTDOWN ACTIVE ON
ALARM    J 00  DC-123 MEOH TREE -
ALARM    J 00  DC-123 ASPHALTENE
ALARM    J 00  DC-123 CORR SCALE
CHANGE   J 00  DC-123 A3
CHANGE   J 00  DC-124 A2
ALARM    J 00  DC-124 ASPHALTENE
ALARM    J 00  DC-124 CORR SCALE
ALARM    J 00  DC-124 MEOH TREE -
ALARM    H 00  DC-124  CHOKE
CHANGE   J 00  DC-143 A3
```

```
10-Feb-08  09:25:01.000 ATS_XV14307_SD                    ALARM          J 00  DC-143 ASPHALTENE
DOWNHOLE (CIDV3)                  SD
10-Feb-08  09:25:01.000 ATS_XV14308_SD                    ALARM          J 00  DC-143 CORR SCALE
INHIBITOR - DOWNHOLE (CIDV1)      SD
10-Feb-08  09:25:01.000 ATS_XV14310_INTLK                 ALARM          J 00  DC-143 MEOH TREE -
DOWNSTREAM CHOKE (CITV3)          INTLK
10-Feb-08  09:25:01.000 ATS_SC004_A2                      CHANGE         J 00  WI FLOWLINE W2 PROCESS
SHUTDOWN A2                       SHUTDOWN
10-Feb-08  09:25:01.000 ATS_MANFLD02_MENU                 CHANGE         J 00  SHUTDOWN ACTIVE ON
MANIFOLD PAGE 02                  SHUTDOWN
10-Feb-08  09:25:01.000 ATS_XYSC026                       CHANGE         J 00  TOPSIDES
OSD                                         SHUTDOWN
10-Feb-08  09:25:01.000 ATS_YYSC010                       ALARM          U 00  PROD FL P1
PSD                                       SHUTDOWN
10-Feb-08  09:25:01.000 ATS_YYSC012                       ALARM          U 00  PROD FL P2
PSD                                       SHUTDOWN
10-Feb-08  09:25:01.000 ATS_YYSC014                       ALARM          U 00  PROD FL P3
PSD                                       SHUTDOWN
10-Feb-08  09:25:01.000 ATS_XYSC006                       CHANGE         J 00  TEST FL T
PSD                                        SHUTDOWN
10-Feb-08  09:25:01.000 ATS_XYSC019                       CHANGE         J 00  CORR/SCALE INJ VALVE
SD                              SHUTDOWN
10-Feb-08  09:25:01.000 ATS_XYSC020                       CHANGE         J 00  ASPH INJ VALVE SD
                                  SHUTDOWN
10-Feb-08  09:25:01.000 ATS_XYSC010                       CHANGE         J 00  PROD FL P1
PSD                                       SHUTDOWN
10-Feb-08  09:25:01.000 ATS_XYSC012                       CHANGE         J 00  PROD FL P2
PSD                                       SHUTDOWN
10-Feb-08  09:25:01.000 ATS_XYSC014                       CHANGE         J 00  PROD FL P3
PSD                                       SHUTDOWN
10-Feb-08  09:25:01.000 ATS_YYSC019                       ALARM          U 00  CORR/SCALE INJ VALVE
SD                              SHUTDOWN
10-Feb-08  09:25:01.000 ATS_YYSC020                       ALARM          U 00  ASPH INJ VALVE
SD                                    SHUTDOWN
10-Feb-08  09:25:04.000 ATS_HCV11117_SD                   ALARM          J 00  DC-111  CHOKE
SHUTDOWN                              SD
10-Feb-08  09:25:04.000 ATS_PI11135                       PVLO      OK   H 00  DC-111 CHOKE UPSTREAM
PRESSURE                      2357.8                PSIA
10-Feb-08  09:25:04.000 ATS_XV11107_SD                    ALARM          J 00  DC-111 ASPHALTENE
DOWNHOLE (CIDV3)                  SD
10-Feb-08  09:25:04.000 ATS_XV11108_SD                    ALARM          J 00  DC-111 CORR SCALE
INHIBITOR - DOWNHOLE (CIDV1)      SD
10-Feb-08  09:25:04.000 ATS_XV11109_INTLK                 ALARM          J 00  DC-111 MEOH TREE -
UPSTREAM CHOKE (CITV2)            INTLK
10-Feb-08  09:25:04.000 ATS_XV11109_SD                    ALARM          J 00  DC-111 MEOH TREE -
UPSTREAM CHOKE (CITV2)            SD
10-Feb-08  09:25:04.000 ATS_XV11111_SD                    ALARM          J 00  DC-111 PARAFFIN
INHIBITOR - TREE (CITV1)            SD
10-Feb-08  09:25:04.000 ATS_YY11172                       ALARM          U 00  DC-111 WELL PIPELINE
SD                                SHUTDOWN
10-Feb-08  09:25:04.000 ATS_YY11173                       ALARM          U 00  DC-111 WELL FLOWLINE
PSL                               SHUTDOWN
10-Feb-08  09:25:04.000 ATS_DC111_A5                      CHANGE         J 00  DC-111 A5
SHUTDOWN                                    SHUTDOWN
10-Feb-08  09:25:04.000 ATS_DC111_A10                     CHANGE         J 00  DC-111 A10
SHUTDOWN                                  SHUTDOWN
10-Feb-08  09:25:04.000 ATS_XV11207_SD                    ALARM          J 00  DC-112 ASPHALTENE
DOWNHOLE (CIDV3)                  SD
10-Feb-08  09:25:04.000 ATS_XV11208_SD                    ALARM          J 00  DC-112 CORR SCALE
INHIBITOR - DOWNHOLE (CIDV1)      SD
10-Feb-08  09:25:04.000 ATS_XV11209_INTLK                 ALARM          J 00  DC-112 MEOH TREE -
UPSTREAM CHOKE (CITV2)            INTLK
10-Feb-08  09:25:04.000 ATS_XV11209_SD                    ALARM          J 00  DC-112 MEOH TREE -
UPSTREAM CHOKE (CITV2)            SD
10-Feb-08  09:25:04.000 ATS_HCV11217_SD                   ALARM          J 00  DC-112  CHOKE
SHUTDOWN                                SD
10-Feb-08  09:25:04.000 ATS_XV11307_SD                    ALARM          J 00  DC-113 ASPHALTENE
DOWNHOLE (CIDV3)                  SD
10-Feb-08  09:25:04.000 ATS_XV11308_SD                    ALARM          J 00  DC-113 CORR SCALE
INHIBITOR - DOWNHOLE (CIDV1)      SD
10-Feb-08  09:25:04.000 ATS_XV11309_INTLK                 ALARM          J 00  DC-113 MEOH TREE -
UPSTREAM CHOKE (CITV2)            INTLK
10-Feb-08  09:25:04.000 ATS_XV11309_SD                    ALARM          J 00  DC-113 MEOH TREE -
UPSTREAM CHOKE (CITV2)            SD
10-Feb-08  09:25:04.000 ATS_XV11311_SD                    ALARM          J 00  DC-113 PARAFFIN
INHIBITOR - TREE (CITV1)            SD
10-Feb-08  09:25:04.000 ATS_HCV11317_INTLK                ALARM          J 00  DC-113  CHOKE
INTERLOCK                           INTLK
10-Feb-08  09:25:04.000 ATS_HCV11317_SD                   ALARM          J 00  DC-113  CHOKE
```

```
SHUTDOWN                                    SD
 10-Feb-08  09:25:04.000 ATS_DC113_A5                CHANGE                    J 00  DC-113 A5
SHUTDOWN                                    SHUTDOWN
 10-Feb-08  09:25:04.000 ATS_DC113_A10               CHANGE                    J 00  DC-113 A10
SHUTDOWN                                    SHUTDOWN
 10-Feb-08  09:25:04.000 ATS_PI12463                 PVHI                      H 00  DC-124 LP RETURN
PRESSURE                                    3168.73  PSIA
 10-Feb-08  09:25:04.000 ATS_PI12464                 PVHI                      H 00  DC-124 HP RETURN
PRESSURE                                    3107.9   PSIA
 10-Feb-08  09:25:04.000 ATS_XV12407_INTLK           ALARM                     J 00  DC-124 ASPHALTENE
DOWNHOLE (CIDV3)                            INTLK
 10-Feb-08  09:25:04.000 ATS_XV12408_INTLK           ALARM                     J 00  DC-124 CORR SCALE
INHIBITOR - DOWNHOLE (CIDV1)                INTLK
 10-Feb-08  09:25:05.000 ATS_XV11211_SD              ALARM                     J 00  DC-112 PARAFFIN
INHIBITOR - TREE (CITV1)                    SD
 10-Feb-08  09:25:05.000 ATS_YY11272                 ALARM                     U 00  DC-112 WELL PIPELINE
SD                                          SHUTDOWN
 10-Feb-08  09:25:05.000 ATS_YY11273                 ALARM                     U 00  DC-112 WELL FLOWLINE
PSL                                         SHUTDOWN
 10-Feb-08  09:25:05.000 ATS_DC112_A5                CHANGE                    J 00  DC-112 A5
SHUTDOWN                                    SHUTDOWN
 10-Feb-08  09:25:05.000 ATS_DC112_A10               CHANGE                    J 00  DC-112 A10
SHUTDOWN                                    SHUTDOWN
 10-Feb-08  09:25:05.000 ATS_YY11372                 ALARM                     U 00  DC-113 WELL PIPELINE
SD                                          SHUTDOWN
 10-Feb-08  09:25:05.000 ATS_YY11373                 ALARM                     U 00  DC-113 WELL FLOWLINE
PSL                                         SHUTDOWN
 10-Feb-08  09:25:05.000 ATS_XV12307_INTLK           ALARM                     J 00  DC-123 ASPHALTENE
DOWNHOLE (CIDV3)                            INTLK
 10-Feb-08  09:25:05.000 ATS_XV12308_INTLK           ALARM                     J 00  DC-123 CORR SCALE
INHIBITOR - DOWNHOLE (CIDV1)                INTLK
 10-Feb-08  09:25:05.000 ATS_XV14307_INTLK           ALARM                     J 00  DC-143 ASPHALTENE
DOWNHOLE (CIDV3)                            INTLK
 10-Feb-08  09:25:05.000 ATS_XV14308_INTLK           ALARM                     J 00  DC-143 CORR SCALE
INHIBITOR - DOWNHOLE (CIDV1)                INTLK
 10-Feb-08  09:25:06.000 ATS_XV11107_INTLK           ALARM                     J 00  DC-111 ASPHALTENE
DOWNHOLE (CIDV3)                            INTLK
 10-Feb-08  09:25:06.000 ATS_XV11108_INTLK           ALARM                     J 00  DC-111 CORR SCALE
INHIBITOR - DOWNHOLE (CIDV1)                INTLK
 10-Feb-08  09:25:06.000 ATS_XV11207_INTLK           ALARM                     J 00  DC-112 ASPHALTENE
DOWNHOLE (CIDV3)                            INTLK
 10-Feb-08  09:25:06.000 ATS_XV11208_INTLK           ALARM                     J 00  DC-112 CORR SCALE
INHIBITOR - DOWNHOLE (CIDV1)                INTLK
 10-Feb-08  09:25:06.000 ATS_HCV14317_STAT           ALARM                     H 00  DC-143 CHOKE
STATUS                                      UNDETER
 10-Feb-08  09:25:07.000 ATS_HCV11117_STAT           ALARM                     H 00  DC-111  CHOKE
STATUS                                      UNDETER
 10-Feb-08  09:25:07.000 ATS_PI11135                 PVLO              OK      H 00  DC-111 CHOKE UPSTREAM
PRESSURE                    2364.16
```

What I see from all of this is that the topsides initiated shutdowns (PSD and OSD) and the MCS received those signals. I see the ATS_YYxxx72 PIPELINE SD for all six wells, so there were trips initiated for all six.

Frank

-----Original Message-----
From: WDean@technip.com [mailto:WDean@technip.com]
Sent: Monday, February 11, 2008 9:32 AM
To: Ragan, Frank
Cc: Young, Brian J; Oza, Nita; Berger, Ron K (Manatee); Vass, Malcolm (Technip); Reynolds, Brandon (Technip)
Subject: Re: Black start on the 10th Feb

Frank,

I have made the same note, SPCU-1 , single board computer SBC-1A for TEM A and SBC-1B for TEM B. The ProSoft boards are also on a constant power source (24 Vdc) aren't they. Note the attached Mustang one-line diagram.
Each SPCU is fed from the UPS Distribution Panel UPE-5553 so the loss of AC power should not have caused a PSL, UNLESS the PSS or the SCU (ProSoft) toggled the PSL ATS_XY-SCxxx or ATS_YY_SCxxx associated PSL shutdown discretes. Please check the PHD and see if the discretes associated with the well/flowline were toggled for the wells that did shut down, and did not toggle for the wells that did not shutdown. These discretes are on page 38 of 38 on the attached Tag List.

We should have also received a FC signal for each well that was issued a PSL SD discrete. Surely this 24 Vdc from DPE-5504-A (Emergency Bus) and DPN-5551-B (Normal Bus) transfers bumpless and not through a contactor. If there is a bump in the 24 Vdc the ProSoft MVIs could glitch. I just don't know how Honeywell handles the SCU ATS_YY_SCxxx signals.

I would not expect that the SBCs received a power glitch as they are from UPS palel UPE-5553. The 120 Vac for the SPCU Cabinet lights LPN-5405 A & B and they are from the normal power bus, but the SBCs and the rest of the TEM gear is from the 240 Vac UPE-5553. The SCU 120 Vac also comes from the normal bus LPN-5405 A & B to CAB-J311 and J326.

Your comments please,

Wayne

(See attached file: 3478-BSB-LA-0011 Rev 5.pdf)(See attached file: MOC 1044_1440-20-EL-DG-6201 Rev 3.pdf)

"Ragan, Frank" <Frank.Ragan@bp.com>
02/10/2008 01:14 PM

To: "Oza, Nita" <Nita.Oza@bp.com>
cc: "Berger, Ron K (Manatee)" <ron.berger@bp.com>, "Young, Brian J" <Brian.J.Young@bp.com>, "Dean, Wayne (TECHNIP)" <wdean@technip.com>
Subject: Re: Black start on the 10th Feb

Nita,

I talked Jeff about the trip. Two things I find interesting. First, all of the wells that had trouble were on the same (troublesome) SPCU. Second, the Prosoft cards needed to be reset to restore communication (did the SPCU lose power? All three are on a dedicated

UPS).

What is the timing for getting FMC to swap out the SBC?

Frank Ragan
Automation Engineer
Atlantis Facilities Team
(281)366-6341 Office
(713)305-2723 Cell

----- Original Message -----
From: Oza, Nita
To: Ragan, Frank
Cc: Berger, Ron K (Manatee); Young, Brian J; Dean, Wayne (TECHNIP)
Sent: Sun Feb 10 16:33:21 2008
Subject: Black start on the 10th Feb

Frank,

We had a black start today at 9.25am.

When the turbine trips, the power went down and we did not have PSL on DC123, DC124 and DC143. DC111, D112 and DC113 when through the normal shutdown of PSL.

Can you please help me and look into what happened? I will get screen shots of what we did see to you.

Nita Oza
Atlantis Operations
Onshore Subsea Team Lead
Office: 281 366 3901
Cell:

From: Nagengast, Charles J
Sent: Tuesday, February 12, 2008 9:28 AM
To: Frazier, Donald E (HOU); Leavelle, Stephen W (HOU)
Cc: Snow, Jeff R; Little, Joshua J; Richmond, Mike; Ball, Michael A; Ragan, Frank; Robb, Frank; 'Laurin, Chris J (HOU)'; Bodin, Tim A (HOU); Ross, Jim; Snyder, David D; Thomas, Dennis J
Subject: RE: Atlantis T-Gen STI Fault trip

Don / Steve:

The No.3 turbine shut down on a step to idle fault after getting a low turbine oil pressure alarm.

The logic drawings indicate this alarm can lead to such a fault.

After the fact we noticed the duty pump was down and the standby pump running (although the alarm was actually from the transmitter downstream of the shaft driven turbine pump).

So we're really not sure what happened. The next day with the turbine off line the Guys tried swapping the pumps (the original duty pump that was down started right up and ran normally), turning the duty pump off and letting the standby pump come on, etc., and could not get the same fault to repeat.

Plus some other bizarre behavior was noticed.

Our load on Atlantis is by now slightly over what one turbine will manage now so when No.3 went down on this trip to idle fault, within seconds No.2 went down on high firing temp (overload).

In scrambling to come back up we only got the aux power back on to the starter 12 seconds before the 15 minute lockout timer ran out. We tried to get the machines to manual crank but neither one would start (within those 12 seconds). The 15 minute timer ran out and we were locked out for four hours, we thought. The 4 hour lockout alarm rang and the timer started counting down on both turbines.

Next thing we know we looked back over to number 3 after a few minutes, after the lockout timer was already running, and it was manually cranking, but the lockout time was still counting down in yellow on the timer screen.

Then a short few minutes after that the lockout timer cleared on it's own and we were able to restart the No. 3 turbine. Unfortunately No.2 did not do the same thing and we were locked out for the full 4 hours on it, but we had No.1 to bring up to get waste heat after No.3 was on line so we could start our heat media circulation pumps.

The 4 hour lockout timer is killing us. This will be the subject of a note directly to Dresser Rand Controls.

We did not approve Dresser adding this feature. The "we" might exclude Thunder Horse if they knew you were adding this, but we had no idea as they share nothing with us. When the notion of a lockout timer was discussed previously in the context of Atlantis and Holstein, we specifically said we don't want a forced lockout and asked instead for a popup screen warning after the 15 minutes so that it would be BP's decision as to whether to risk a restart after 15 minutes, not Dresser Rands.

No MOC on our side allowed this change nor would it have been approved. Dresser has no skin in the risk assessment on restarting the turbine. This should be our risk and decision as an operator of this equipment. LM2500s have been around for over 30 years and GE just came out with this warning last year as a result of very few incidents where there was a problem caused by starting after 15 minutes. We had already made it a best practice to manually crank our machines long before GE made it a requirement.

Please advise your thoughts.

Regards

Chuck Nagengast PE
BP Gulf of Mexico Production Company
Rotating Equipment Technical Authority
Office – (281)-366-6169
Cell -

The happiest people don't necessarily have the best of everything; They just make the best of everything they have.....

From: Frazier, Donald E (HOU) [mailto:DFrazier@Dresser-Rand.com]
Sent: Tuesday, February 12, 2008 7:30 AM
To: Nagengast, Charles J
Cc: Snow, Jeff R; Little, Joshua J
Subject: Atlantis T-Gen STI Fault trip

Chuck,
I tried to call you back, and eventually talked to Jeff. Told him need to get any alarms that may have come in before the actual trip. It may be a faulty Woodward liquid fuel valve that alarms, and then comes in as an STI fault SD since it does not get to idle within the 20 seconds during switch over. I have not heard back on anything in a couple of days.

Don Frazier
D-R Houston Field Support Services

IMPORTANT NOTICE:
This email may be confidential, may be legally privileged, and is for the intended recipient only. Unauthorized access, disclosure, copying, distribution, or reliance on any of it by anyone else is prohibited and may be a criminal offense. Please delete if obtained in error and email confirmation to the sender.

From: Little, Joshua J
Sent: Thursday, February 14, 2008 12:17 PM
To: Ragan, Frank; Snow, Jeff R
Subject: RE: Platform Shutdown 10 Jan.08

Frank,

There is no debounce timer in the TCP. It would break away from D-R's programming convention, but I think putting a debounce in the STD_ALM_128 routine for these xmitters would be best. Adding another rung for each alarm we want to add a debounce to; separating the CMP and OTE.

Josh

From: Ragan, Frank
Sent: Thursday, February 14, 2008 10:58 AM
To: Snow, Jeff R
Cc: Little, Joshua J
Subject: RE: Platform Shutdown 10 Jan.08

Jeff,

Josh and I talked about this today. Here's what we decided we would do. If there is an existing debounce timer, he will just adjust it to 1 or 2 seconds. If there is no timer, we'll submit an MoC to cover us for changing the PLC code. If we do change the code, I'll send it to Don and Steve Leavalle (D-R's controls engineer) for their records.

I think we all agree that we don't want an issue around changing code that has been running without the proper MoC paperwork.

Frank

From: Snow, Jeff R
Sent: Tuesday, February 12, 2008 3:29 PM
To: Ragan, Frank
Subject: FW: Platform Shutdown 10 Jan.08

Frank,

I looked through the TGEN logic to find a denounce timer that we could lengthen, but couldn't find any. Shouldn't we be going through Don Frazier directly or through DR for something like this?

Jeff

From: Nagengast, Charles J
Sent: Monday, February 11, 2008 7:01 AM
To: Snow, Jeff R
Cc: Snook, John; Roades, Barth L; Robb, Frank; Richmond, Mike; McClanahan, Ricky G; Snyder, David D; Rucker, Roy P; Gipson, Les; Gardner, Alton P; Ross, Jim; Herrmann, Douglas T; Ball, Michael A; Ragan, Frank
Subject: RE: Platform Shutdown 10 Jan.08

Jeff:

Further to this note I sent out yesterday, it would also be a good idea to add a 1 second D-bounce timer on the low turbine oil pressure shutdown (eg. PT-50722 for Turbine No.3).

If the oil pressure is truly low and will stay that way 1 second won't make a difference and if it is a glitch or a momentary drop due to pumps swapping this will prevent a shutdown.

Thanks.

Regards

Chuck Nagengast PE
BP Gulf of Mexico Production Company
Rotating Equipment Technical Authority
Office – (281)-366-6169
Cell -

The happiest people don't necessarily have the best of everything; They just make the best of everything they have.....

From: Nagengast, Charles J
Sent: Sunday, February 10, 2008 4:28 PM
To: Powell, Joe; Ross, Jim; Herrmann, Douglas T; Ball, Michael A
Cc: Snook, John; Roades, Barth L; Robb, Frank; Richmond, Mike; McClanahan, Ricky G; Snyder, David D; Rucker, Roy P; Gipson, Les; Gardner, Alton P; Harrison, Rickey
Subject: Platform Shutdown 10 Jan.08

Mssrs:

Here are a few comments from me on todays shutdown for your use (or not) as you see fit.

Mike Richmond and I were trying to start the No.1 Turbine when No. 3 went down so we were able to quickly look at what happened in real time.

It appears for reasons yet undetermined the primary lube oil pump on No.3 shutdown or was shut down by some glitch. It appears intact but we've not attempted to run it since the event. However it was off the low pressure alarm that starts the standby pump registered and the standby pump was running.

The standby pump did not come on quickly enough to prevent hitting the low oil pressure shutdown.

We can troubleshoot that problem when No.3 is off line again, however two things we can do to mitigate a re-occurrence in the context of the current operating loads we are running under:

1. We can raise the setpoint at which the standby pump comes on, giving it a few extra milliseconds to catch the pressure, which should be enough.

Or....

2. You can run two oil pumps at all time so if one goes down the other comes on.

Bottom line however is that a glitch on any turbine that shuts it down is not a totally unexpected event. The real root cause of the platform shut-in was that at current and predicted near future production rates we now are running above the capability of one turbine.

So when we lost No.3 and No.2 tried to take the extra load it shut down on high firing temperature (23 MW load versus 21 MW Turbine).

There are also two solutions to that,

1. Run three turbines. This is not a preferred option since each will be running at low load which is not good for the engines.

2. Up the priority on commissioning the load share program.

Had the Turbine trip today shed a VRU and booster compressor via load shed, the rest of the plant would likely have rode it out.

We would have had some flaring to report but not as much as with the total plant shut-in.

This situation will only get worse as the production rate increases.

Finally we also need to speak to Dresser Rand about taking out the 4 hour lockout feature they put on the turbines in the last software upgrades. We were only literally one second away from a 4 hour lockout on turbine 3 which would have necessitated starting No.1 without heat media circulation.

LM2500s have been in service for over 30 years. GE only just last year issued a warning that if an engine is not windmilled on it's starter within 15 minutes following a hot shutdown that there is a risk that the casing will have cooled faster than the rotor and the blades may contact it. This can lead to a blade failure. We had this happen to us on one engine on Holstein where we chipped a latter stage air compressor blade.

However this is a risk, not a certainty. As such as the operators of this equipment it should be up to us given the situation and potential loss of revenue as to whether we want to take that risk, not Dresser Rand. They have no stake in it.

When this was first discussed after the GE bulletin came out we told Dresser Rand we DID NOT want this lockout feature added to our program, but instead told them to add an alarm and pop up window citing the risk and asking the Operator if he wants to proceed after 15 minutes.

In other words the choice as to whether we want to take this risk, which is low, should be BP's and not mandated by Dresser Rand who has no stake in this, financial or otherwise.

Please advise your thoughts.

Regards

Chuck Nagengast PE
BP Gulf of Mexico Production Company
Rotating Equipment Technical Authority
Office – (281)-366-6169
Cell -

The happiest people don't necessarily have the best of everything; They just make the best of everything they have.....

From: Munstereifel, Eric J (Acock)
Sent: Thursday, February 28, 2008 7:09:28 AM
To: Munstereifel, Eric J (Acock); Smith, Fred (Trendsetter); Sheetz, David (Delta Marine Tech); Gutierrez, Daniel; DD2 Dispatcher; DD2 Well Site Leader; Hughes, John D; Weber, Rick G; Malone, Ryan P; Morry, Brett (Unknown Business Partner); Hall, Gene E; Oza, Nita; Flanders, Bruce A; Cantrell, Kirk (Acock); Perko, Mike J (PSTCS); Kahlden, Ken M (Clover); Fuselier, Jimmy; 'Dirksen.Dunlap@fmcti.com'; Sanders, Robert O; Kirkham, Benny (BAMA); Leppard, Steve A (Riskbytes); Radich, Derek M. (RWDY); Metcalf, Dick (Manatee); 'DevelopmentDriller2, DrillingEngineer (DevelopmentDriller2)'; Faulkerson, Joseph C; Bourque, Eddie P (RWDY); 'Hardee, Bubba'; Broman, William H(HOU); Okuchaba, Boma; Mayse, Lawrence W; Simoneaux, Joshua W (RWDY)
Subject: 2008-02-28 Subsea Installation Team Daily Report

PAST 24 Hours (Wednesday)

- Completed CP inspection of SROV cursor frame
- CP inspection 100% complete - all data and video has been assembled and will be sent in with Deepwater Corrosion technician today.
- Completed installation of IWOCs EFLS, and HFL
- Verified communication through CWTU in operator mode
- Recovered 400 HFL to HFLDF
- Completed repairs to FMTT control circuit on SROV
- Currently performing riser inspection
- Conducted environmental / safety awareness review with all FMC and ROV crews - reviewed Root Cause analysis report for electrical shock incident. As of yesterday this will occur at every shift change.

ISSUES PAST 24 Hrs

- SROV attempted to replace cracked manifold. Prior to installation it was identified that the manifold required helicoil inserts to be installed in the manifold housing prior to installation. A sufficient qty of inserts were not available onboard to complete the manifold preparation. Inserts have been ordered.
- SROV found control potentiometer on surface console cause erratic command signal resulting in erratic torque applied from FMTT. Replaced pot and verified operational.
- CP equipment has been removed from both ROVs and will be sent back to Vendor by Deepwater Corrosion technician.

CURRENT 24 Hrs (Thursday)

- Continue SROV repairs and maintenance
- Complete Riser inspection
- Deploy SFL deployment frame - vessel offset dependant
- Complete recovery of HFLDF deployment frame
- Begin load out of Jumper PP2/3-P3 onboard C-Express
- Relocate EFLs used for DC122 testing to SDU for storage
- Install Valve panel clamp on DC123
- Calibrate ROV depth sensors to known depth at M3 pile.

NEXT 24 Hrs (Friday)

- Re-Deploy HFLDF to recover damaged HFL
- Recover 200 ft HFL from DC113 Park position and install on HFLDF for recovery to surface
- Continue deployment of 4 x SFL parking frames
- Complete load out of Jumper PP2/3-P3 onboard C-Express

5 DAY FORECAST

- Complete recovery of 2 x damaged HFLs for repair
- Installation of PP2/3-P3 Jumper has been scheduled for installation after Frac. Jumper will be loaded out on C-

Express today
- 4 x SFL Parking frames received onboard - ready for installation.
- Install ROV clamp on valve panel of DC123 - clamps have arrived onboard.

Regards,

Eric Munstereifel
Atlantis Subsea Installation Team
GSF DD2

Document Control Sheet for Document Handover to Operations

NOTE: This sheet only addresses documents which Operations may be interested in and does not drive what all goes into Documentum. the BP Drawing Number does this. Documentum however is the way that documents are handed over to Operations and Part E. Code 0 to 3 selects where these documents go when fed out from Documentum to the Data Management Systems.

PART A

1.	Vendor Document No	See attached transmittal	Rev. No.	Date
2.	BP Document No.	See attached transmittal	Rev. No.	Date
3.	Document Type Code : (See Separate 'Document Type Code' List)			

PART B – Check The Box That Applies (Duplicates Stamp Information from front cover of Technip Documents; thus acts as a link to this form.)
TECHNIP/PROJECT APPROVALS

n/a	Not Applicable To This Document	
✓ Code 1	**No Further Review Required:** All company comments on previous submissions are incorporated.	
Code 2	**Revise and Return:** May proceed subject to incorporation of changes indicated.	
Code 3	**Revise and Resubmit:** Work may not proceed.	
Code 4	**Reviewed Without Comments**	

Sign: Wayne Dean

Date: 02/20/08

PART C – Check The Box That Applies
OPERATIONS HARDWARE CATEGORY (for Information Storage and Recall by Operations)

n/a (Not Applicable To This Document)		
Trees • Production Tree • Injection Tree • Wellhead & Tubing Hanger		Umbilicals • Umbilicals (Hydraulic, Electrical, Hybrid) • Subsea Umbilical Termination Assembly • Topside Umbilical Termination Assembly
Manifolds, PLET's, PLEM's • Subsea Production Manifoldsa • Flowline Jumpers/Spool Pieces • Pipeline End Terminations • Pipeline End Manifolds	✓	Subsea Control System • Master Control Station • Remote Control Station • Hydraulic Power Unit (HPU)
Diverters, Tensioners & Coil Tubing • Riser Tensioner • Riser Flex-Joint/Stress Joint • Riser Diverter • Riser Coil Tubing System		Installation Equipment • Riser Installation Equipment • Umbilical Installation Equipment • Tree Installation Equipment • Installation Workover Control System (IWOCS)
Risers and Flow lines • Risers (Production, Test, W.I.) • Flowlines		Other • Completion Equipment • Riser Utility/Service Pump • Chemical Injection System

Document Control Sheet for Document Handover to Operations

PART D – Check The Box That Applies OPERATIONS SYSTEMS CATEGORY (for Information Recall by Operations)			
	n/a (Not Applicable To This Document)		**Installation Workover Contol System** Workover umbilical, deployment reel, control cabin.
	Production System Includes all equipment that handles the prodution flow, from downhole up through the production trees, jumpers, manifolds, flowlines and risers, up through the boarding valves to the inlet manifold/PSV's.		**Water Injection System** Includes all equipment that handles the water from the water treating system, down the water injection riser, through the associated flowline(s), jumpers, injection trees and downhole equipment.
✓	**Subsea Control System** Includes the Master and Remote Control Stations, HPU, topsides UTA, Umbilicals, subsea UTA / distribution assy, flying leads and control pods.		**Chemical Injection System** Includes the chemical storage tanks, pumps, metering devices, topsides UTA, chemical injection lines/umbilicals, subsea C.I. UTA / distribution assy, and flying leads.
	Coil Tubing / Riser Intervention System Coil tubing reel stand & reel, control cabin, coil tubing base unit, coil tubing BOP & gantry system.		**Installation Equipment** Tree running tools, downhole running tools, tubing hanger running/test tools, Subsea Test Tree w/associated running test tools, jumper & flying lead running tools, riser installation/chain jack system, umbilical installation winch/wildcat system.
5.	If Part A, item 4 has been checked **Yes**, complete **Part E - Operations Document Retention Codes.** If Part A, item 4 has been checked **No**, continue to item 6.		

PART E – Check The Box That Applies OPERATIONS DOCUMENT RETENTION CODES (Specification 1400-85-IM-SP-8700)		
✓	Code 0	Information considered necessary for plant operation. It will be stored electronically and retained throughout the life of the installation. It will be managed within the DMS, Data Warehouse or CMMS.
	Code 1	Information developed in the Project phase, which is deemed useful during commissioning and start up activities but not long-term operations. The data will be temporarily stored electronically. A nominal retention period of 1 year is assumed. Authorization from operations is required to downgrade to Code 2.
	Code 2	Information which is not expected to be referenced on a regular basis in the operations phase. However, the Originator is required (by legal or contractual obligations) to hold data in retrievable archive form.
	Code 3	Information, which is not required to be referenced in the operations phase. This data may be destroyed when the originator considers it redundant.

6.	Subsea Operations Retention Code Selected By:	Signed: Wayne Dean
7.	Operations Retention Code Agreed To By:	Signed: W Vien for VP.
8.	Document Returned to Document Control	Date: 31/10/08
9.	Entered into Documentum	Date:
10.	Copy of form attached to hard copy	Date:
11.	Copy of form attached to electronic doc.	Date:

Technip

Engineering/Technical Document Transmittal

Technip Offshore, Inc.
11700 Old Katy Road, Suite 150
Houston, TX 77079 USA
Phone: -7741
Telefax: -7993

Transmittal No.: 3478-ETT-2631
Date: 3/26/2008

Project No.: 3478
Name: bp Atlantis - Subsea Project
Client: bp

Please complete acknowledgement box below and return promptly

Contact Type	Contact Details	Contact Phone	Contact Fax
To	Tinikka Curtis BP Atlantis Project C/O Technip USA, Inc. 11700 Katy Freeway Suite 150 Houston, TX 77070		

Notes:

The following documents are submitted for disposition as

Project Doc No. *(Other Doc No.)*	Sheet	Rev.	Title	Disposition	Approval Status
3478-BSB-LA-0016 *(1440-35-SB-LI-0205-001)*	01	0	Pictorial, MOC 1044 Subsea MCS PLC Expansion Diagram	FIR	
3478-BSB-LA-0016 *(1440-35-SB-LI-0205-002)*	02	0	Pictorial, MOC 1044 Subsea MCS PLC Expansion Diagram	FIR	

Documents submitted for approval are to be marked 1, 2, 3 or 4 as appropriate and returned no later than _____

FOR EXTERNAL RECIPIENTS ONLY

Please sign below and promptly return this copy, by fax, to acknowledge receipt.

Received by: _____ **Date:** _____

From: Technip Offshore, Inc.

By: *Donna Hill*
Title: Document Control

Distribution	W/att	HardCopy	Electronic
Benny Kirkham -BP@TOI	Yes	No	Yes
David Whitehead -TOI	Yes	No	Yes
Garrick Malone -BP @ TOI	Yes	No	Yes
Robert Tellez - TOI	Yes	No	Yes
Wayne Dean - TOI	Yes	No	Yes
Ron Berger - BP @ TOI	Yes	No	Yes
Nita Oza - BP @ TOI	Yes	No	Yes
Scotty Orr - BP@TOI	Yes	No	Yes
Kevin Powell - BP@ TOI	Yes	No	Yes
Aaron Oswalt - TOI	Yes	No	Yes

Disposition Legend
AB – As-Built
C – Certified
FIR – For Information/Reference
FRA – For Review & Approval
FRC – For Review & Comment
IFC – Issued for Construction

Approval Status Legend
1 – No Further Review Required; All Company Comments on Previous Submissions have been incorporated.
2 – Revise & Resubmit. Work may proceed subject to incorporation of changes indicated.
3 – Revise & Resubmit. Work may not proceed.
4 – Reviewed without comments

From: WDean@technip.com
Sent: Friday, April 11, 2008 9:46 AM
To: Orr, Scotty <scotty.orr@bp.com>; Powell, Kevin J <kevin.powell@bp.com>
Cc: Oza, Nita <nita.oza@bp.com>; Young, Brian J <brian.j.young@bp.com>
Subject: Fw: 3478-ETR-3566 - Installation/Commissioning Procedure, Test Procedure, BP Atlantis Smarttool to SCM Communication Test (BPAT2710A) - Rev C
Attach: 3478-ETR-3566.zip

Gentlemen,

Please find attached the latest revision of the FMC power & comms test procedure. Michael Luong (FMC) & Brandon performed this test for DC-111, DC-112, DC-113, and DC-114 (1st time) with SEM B working. Bruce Maughs and Brandon performed the old procedure for DC-123, DC-124, and DC-143 from the PQ. We did the pre-com and commissioning from Westlake IV. Bruce also completed the old procedure for the new DC-114 from Westlake and that was when all the valves opened on the erroneouss command to connect external sensors.

Aneet Nehra has re-written the power & comms procedure and we have reviewed it in detail. This is the BP approved revision we will perform from Westlake next week for DC-122. I thought I would send you this copy so that the SSCROs will be aware of the testing Aneet, myself, and Brian will perform from Westlake before we and the SSCROs perform the Technip pre-commissioning document and Brian's BP commissioning document and then have Nita bring DC-122 on-line.

Brian is sending you the BP procedure for performing these tests along with the DHFC sleeve tests for the downhole sleeves and the completions guys. This procedure should allow the ISSOW to be completed and in force by Monday morning. Let me know if anything else is required.

Wayne

----- Forwarded by Wayne Dean/AMERICA on 04/11/2008 08:20 AM -----

Atlantis DocControl/AMERICA Sent by: Donna Hill 04/09/2008 04:28 PM	To	Brandon Reynolds/AMERICA@AMERICA, "Garrick Malone" <garrick.malone@bp.com>, "Nita Oza" <nita.oza@bp.com>, brian.j.young@bp.com
	cc	Wayne Dean/AMERICA@AMERICA
	Subject	3478-ETR-3566 - Installation/Commissioning Procedure, Test Procedure, BP Atlantis Smarttool to SCM Communication Test (BPAT2710A) - Rev C

Please find attached the above subject zip file for your information.
(See attached file: 3478-ETR-3566.zip)

Thanks.

bp

Management of Change

MOC #: MOC-GC787-08-0089
Date Initiated: 5/2/2008
Initiated By: Nagengast, Chuck

MOC Requirements/Responsibilities:

Proceed with MOC Process ? (•) Yes ( ) No ( ) Request Clarification ?

PSSR Responsibility: Atlantis Operations Engineer ... ?

Startup to be Authorized by: Atlantis OIM ... ?

Work Package:

Eng. Work Package Target Date: ...
Onshore contact:
Offshore contact:
Pay Key:

Work Order # (If required):
Cost Code(AFE)/WBS Element:
Vendor/Supplier Info:
Purchase Order #:

Hazard Assessment:

Hazard Assessment Type: What If ?

☐ Hazard Assessment Attached

Hazard Assessment Results: Hazard Assessment results should be either attached or entered below

There are no adverse safety consequences from revising the logic in the starting sequence because verification of Liquid Fuel Supply Pressure (downstream of the Liquid Fuel Booster Pump) is considered a more robust indication of the filling of the Liquid Fuel Manifolds prior to initiating the actual fuel transfer sequence (ramping Liquid Fuel Metering Valve open and Gas Fuel Metering Valve closed).

This change helps prevent unplanned shut downs during fuel swapping. Flame outs during fuel swaps can result in fuel being delivered when the engine has just lost ignition and is still hot. To the extent the new logic prevents flame outs, it is safer than the existing logic.

bp

Management of Change

= Required Field

MOC #: MOC-GC787-08-0089
Date Initiated: 5/2/2008
Initiated By: Nagengast, Chuck

MOC Type:	Technical	MOC Status:	unapp
Facility:	Atlantis	Expected Startup Date:	6/20/2008
System:	Electrical	RFA #:	
Verifier/Coordinator:	Atlantis Ops Verifiers	Priority:	A (High)
Shutdown Required:	Equipment	Priority Reason:	Production
MOC Duration:	◉Permanent ○Temporary	Emergency Change:	○Yes ◉No

Title:

Dresser Rand Recommended Modification To Fuel Swapover Logic

Scope:

Modify fuel swapover logic per attached directive from OEM to prevent turbine trips during gas to diesel fuel swaps.

Procedure is modified to sense diesel pressure at a more appropriate location than in the original design. As a result of this change it will be sensed on the pump discharge transmitter, whereas it was originally sensed in the fuel manifold. However the fuel manifold pressure will be high from natural gas operation so sensing it there is an inappropriate indication of diesel pressure and can lead to trips if the transfer occurs before the diesel pressure has built up sufficiently (i.e. if you turn off the gas too soon based on this false reading).

CJN 02 May 08

Justification:

More reliable fuel transfer operation with less risk of a trip.

BP - Gulf of Mexico (GOM)
Deepwater Development (DWD)

Procedure for modification of Gas to Liquid Fuel Transfer Logic for Gas Turbine Generator Units

What:

Revise the existing Gas to Liquid Fuel Transfer logic for all eleven BP GOM DWD Gas Turbine Generator (GTG) units. Remove Liquid Fuel Manifold vs Gas Generator Compressor Discharge Pressure (CDP) differential pressure (dP) check and replace it with Liquid Fuel Supply Pressure greater than Low Shutdown setpoint.

Why:

Verification of Liquid Fuel Supply Pressure (downstream of the Liquid Fuel Booster Pump) is considered a more robust indication of the filling of the Liquid Fuel Manifolds prior to initiating the actual fuel transfer sequence (ramping Liquid Fuel Metering Valve open and Gas Fuel Metering Valve closed).

Units Affected:

DRCS CT No.	Platform	Units		
40312	Holstein	HO-ZAN-5000		
		HO-ZAN-5030		
		HO-ZAN-5060		
40322	Thunder Horse	TH-ZAN-5000		
		TH-ZAN-5030		
		TH-ZAN-5060		
		TH-ZAN-5090		
		TH-ZAN-5120		
40334	Atlantis	AT-ZAN-5000		
		AT-ZAN-5030		
		AT-ZAN-5060		

Prerequisites:

Complete required Management of Change (MOC) process per BP requirements for each platform prior to going offshore to implement the changes. This will typically require submittal of this document describing the nature of the changes and how they are implemented.

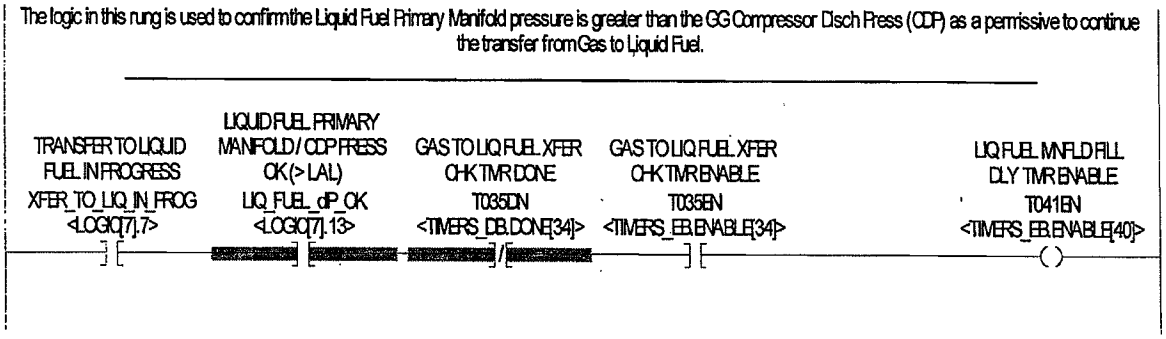
How:

a) Revise the logic in the DUAL_FUEL sub-routine, to initiate Timer 41 (Liquid Fuel Manifold Fill Delay Timer) as illustrated below. Timer 41 is enabled when the pressure check has been confirmed.

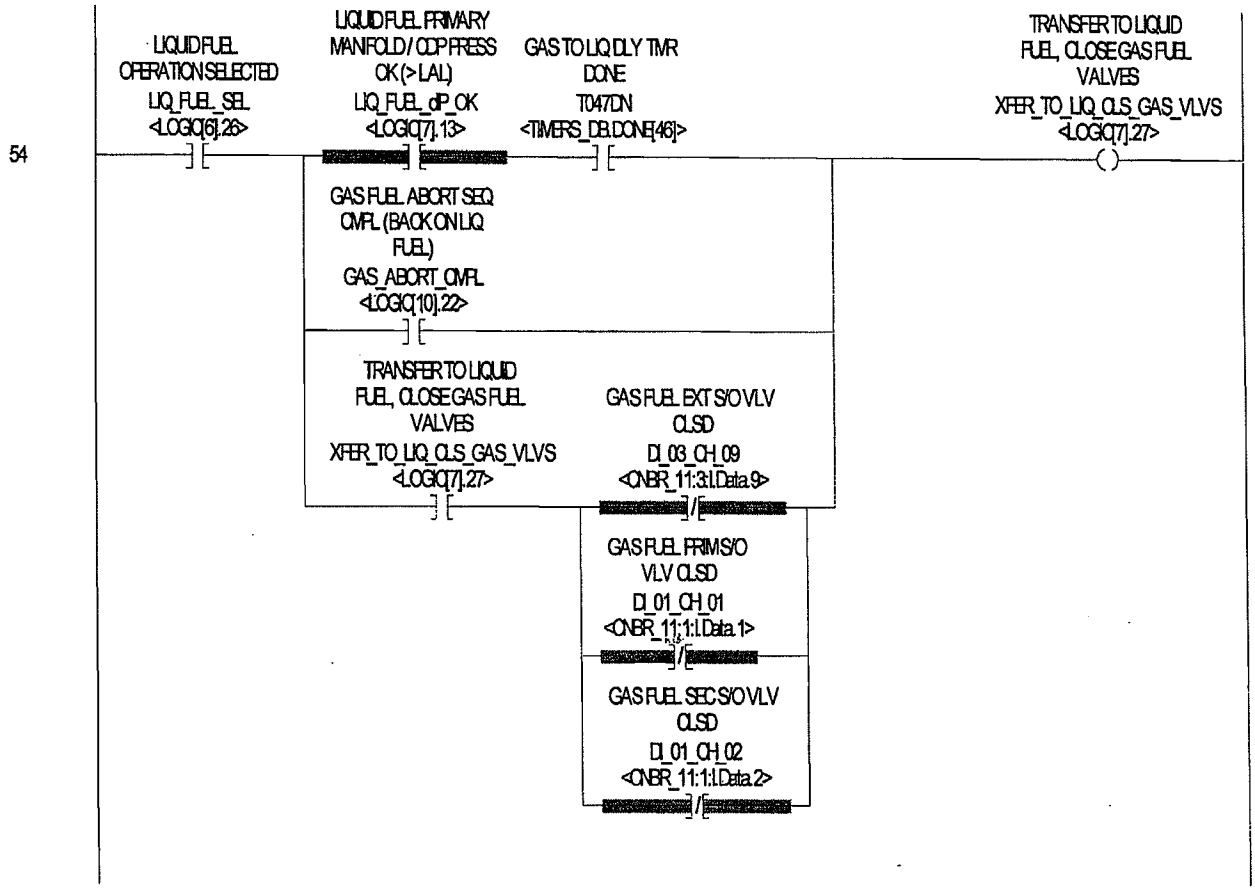
b) Verify or adjust Timer 41 setpoint as 3 seconds (typical). This will introduce a 3 second delay in the initiation of the fuel metering valve transfer once Liquid Fuel Supply Pressure has been confirmed)

A normally open contact from Timer 41 is used to set the logic bit XFER_TO_LIQ_DESELECT_GAS (Transfer to Liquid Fuel Deselect Gas). This bit then operates a Discrete Output to the Fuel Control System (Woodward Governor Co. MicroNet) to initiate the ramped switched over of the fuel metering valves.

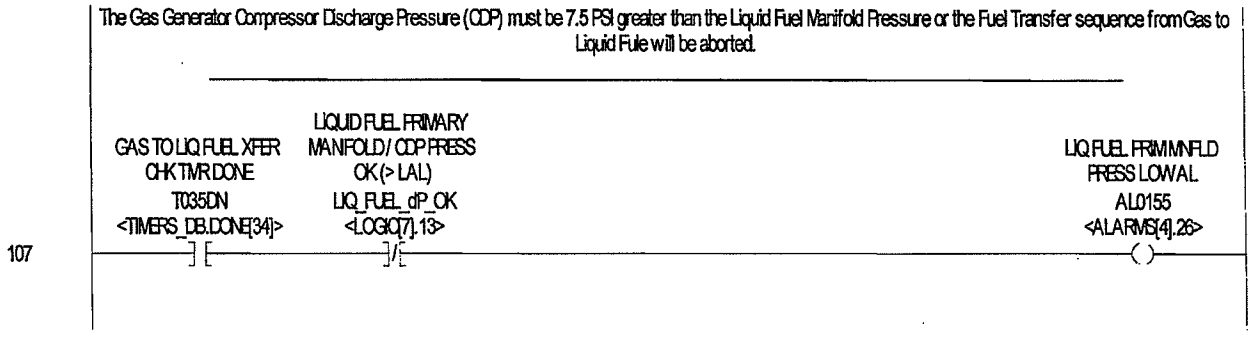
In the following rung, replace LIQ_FUEL_dP_OK with B_A014L4 (Liq Fuel Supply Press-LSD Bit).



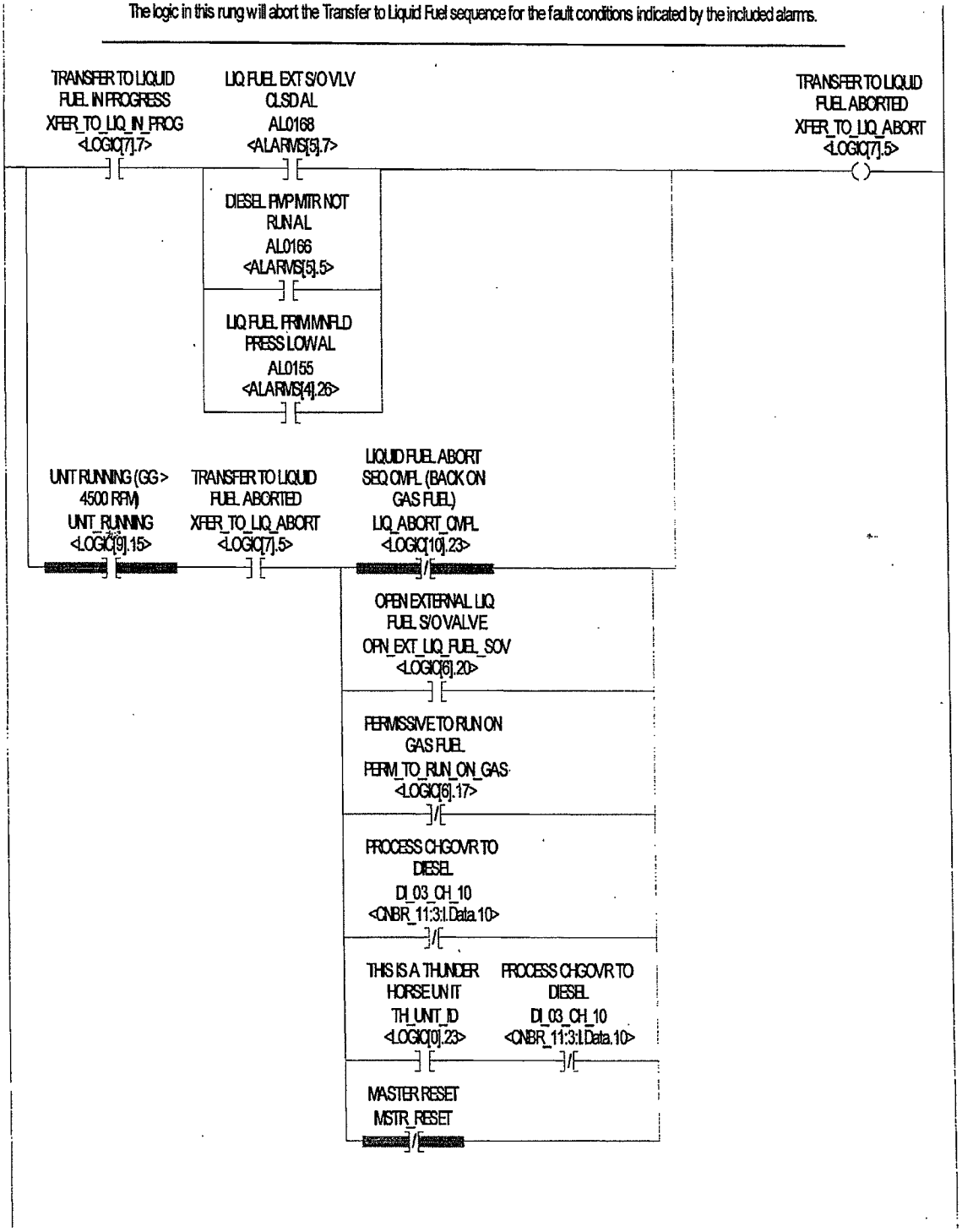
In the following rung of logic, replace LIQ_FUEL_dP_OK with B_A014L4 (Liq Fuel Supply Press LSD Bit).



In the ALARMS subroutine, change AL0155 (below) to SPARE and delete this rung of logic. Make the associated change in the OIW Database (make Alarm 155 Spare).



In the DUAL_FUEL subroutine, delete AL0155 from the logic for XFER_TO_LIQ_ABORT. If Liquid Fuel Supply is not established the Unit will Shutdown rather than trying to return to Gas Fuel operation.



bp

MOC Reviews ?

! Comments have been added for this MOC

MOC #: MOC-GC787-08-0089
Date Initiated: 5/2/2008
Initiated By: Nagengast, Chuck

Reviews Required	Responsible Person	Disposition		Completed By
Technical Review	Ragan, Frank	⦿ Agree	○ Disagree	Ragan, Frank
O&M Review	Atlantis Maintenance	⦿ Agree	○ Disagree	Ball, Michael
HSE Review	Atlantis Offshore HSE	⦿ Agree	○ Disagree	Bertrand, Chris
		○ Agree	○ Disagree	
Process Reviewers	Atlantis Process Revi	⦿ Agree	○ Disagree	Waterhouse, David
		○ Agree	○ Disagree	
Weight Reviewers	Atlantis Barge Superv	⦿ Agree	○ Disagree	Longley, J D
		○ Agree	○ Disagree	
Rotating Equipment TA	Nagengast, Chuck	⦿ Agree	○ Disagree	Nagengast, Chuck
		○ Agree	○ Disagree	
Technical Authority Review (as needed)		○ Agree	○ Disagree	
Engineering Authority Review (as needed)		○ Agree	○ Disagree	

Does this change require a deviation from Technical Practices or Industry Standards ? ○Yes ⦿No

Does this change require Technical Authority Review ? ○Yes ⦿No

Does this change require Engineering Authority Review ? ○Yes ⦿No

Does this change require any weight to be added or removed ? ○Yes ⦿No ?

From: Nagengast, Charles J
Sent: Saturday, May 03, 2008 1:21 PM
To: Ball, Michael A; Snyder, David D
Cc: Robb, Frank; McClanahan, Ricky G; Rucker, Roy P; Richmond, Mike; Snow, Jeff R; Thomas, Dennis J; Ragan, Frank; DeJohn, Kenneth P; Herrmann, Douglas T; Gipson, Les; Ross, Jim; Gardner, Alton P; Bish, Steven S; Roades, Barth L
Subject: Gas Turbine Low Oil Pressure Trips Troubleshooting

Follow Up Flag: Follow up
Flag Status: Flagged

Mike / Dave:

While I have been here for the pipeline pump reinstallation / restart, we have been doing some troubleshooting on the gas turbines trying to see if we can figure out why we get periodic low turbine supply pressure trips.

Bottom line is that we've not come up with anything more substantial than the current 3 second D bounce on the trip, which has pretty much eliminated the trips, but not the momentary pressure dips themselves.

Prior to the start of these tests the instruments themselves were carefully evaluated including all grounding to insure what we were seeing was real and not an instrumentation problem. The instruments checked out ok. We believe it is real pressure dips since redundant pressure transmitters see it at the same time.

The following summarizes some of the major things we've done this past week so we don't duplicate any efforts in trying anything else we try point forward.

1. We started up turbine No.3 and have been running all three during this testing so we didn't put any production at risk.

2. Since No.3 had been the machine with the most nuisance trips we wanted to run it anyway as the test case.

3. It was confirmed that all three new Hilco demister vacuum pumps are pulling a good vacuum as measured on the outlet of the coalescing element, but there seems to be a fairly significant pressure drop through the element as the reservoir pressure vacuum is an order of magnitude higher than the blower suction pressure. However we don't know that this isn't normal (22 inches below atmospheric on the blower suction versus between 0.75 and 1.0 inch on the tank). There are no leaks on the vacuum relief valves and the vacuum control needle valves are all closed.

The reading on the tank vacuum transmitter on No.3 was suspect and is being checked out.

The turbine with the least and smallest magnitude excursions is No.2 which has the highest vacuum. A higher vacuum does lead to better degassing of the oil so there could be some correlation there.

4. We added the head tank supply pump (reservoir tank pump) output pressure to the trends of turbine pump outlet and turbine bearing inlet pressure to evaluate whether there was any correlation in the supply of oil to the head tank and the pressure dips at the turbine.

There is none, the head tank pump outlet pressure remained constant while the turbine supply pressure continued to dip on a periodic basis.

5. We tried running two head tank supply pumps (the main motor driven pumps) thinking the higher supply pressure on the upstream side of the head tank supply orifice might increase the flow enough to raise the level above the overflow connection slightly and make some difference but it made no difference and we returned to a single pump operation.

6. The only experiment we didn't try because it would involve rolling a figure 8 blind, would be with the engine running to slowly and slightly open the flushing bypass around the head tank so as to supply pressurized oil directly on the suction of the shaft driven pump. This could pinpoint the operation of the head tank as the source of the issue.

This experiment could be carried out at a later time when I am offshore if we continue to have shutdowns associated with this phenomena. However as we currently have mitigated the problem of shutdowns with a D bounce timer on the trip, and there is no downside to continuing to operate this way we do not need to pursue this at this time.

Sorry I don't have a better answer than that. We tried everything we could think of except No.6 which is more drastic.

Regards

Chuck Nagengast PE
BP Gulf of Mexico Production Company
Rotating Equipment Technical Authority
Office – (281)-366-6169
Cell -

The happiest people don't necessarily have the best of everything; They just make the best of everything they have.....

From: Chan, Roy <Roy.Chan@bp.com>
Sent: Wednesday, May 21, 2008 7:06 PM
To: Fleming, Ray H <Ray.Fleming@bp.com>; Curran, Christopher J <Christopher.Curran@bp.com>; Oza, Nita <Nita.Oza@bp.com>; Young, Brian J <Brian.J.Young@bp.com>
Subject: FW: SEM 150 CPU Ram Chip
Attach: BP Nakika Product Notification - SEM_CPU_RAM Chip Error May 142008.pdf

Just want you to be aware that there are some issues with CPU RAM Chips used in FMC SEM. The issues could cause pod communication and data handling problem. Two of the recent delivered pods for Na Kika II have those chips in them, and TH and Atlantis could be using those chips as well. I haven't asked FMC if TH and Atlantis are affected, but keep that in mind that if any SEM comm. and data handling problem come up in the SCM.

Roy
Office: +1 281 366-1131
Mobile:

From: Roberson, Mark B
Sent: Wednesday, May 21, 2008 2:17 PM
To: Chan, Roy; Russell, John P (SHELL); Henderson, William B.
Subject: FW: SEM 150 CPU Ram Chip

FYI

Mark B. Roberson, P.E.
Nakika Subsea Ops. Lead Engineer
GoM Developments
☎ 1-281-366-5681 (Direct)
1-281-366-1600 (Fax)

From: Maguire, Niall J
Sent: Wednesday, May 21, 2008 1:34 PM
To: GEORGE.BRADLEY@fmcti.com; Roberson, Mark B
Cc: Macon, Richard
Subject: FW: SEM 150 CPU Ram Chip

George,
Mark Roberson is the Subsea Operations Engineer for Na Kika. Any issues or queries with the F-5 (SCM 68) well should be directed to him.

Technically, SCM 67 still falls under my remit. Please let me know FMC's recommendation on what to do with this SCM that contains the suspect chip.
Thanks,

Niall Maguire
Westlake 4 Room 531A
281 366 7317 office
281 366 7557 fax

From: Bradley, George [mailto:GEORGE.BRADLEY@fmcti.com]
Sent: Wednesday, May 21, 2008 1:14 PM
To: Maguire, Niall J
Cc: LALOR, RICHARD; Barrett, Steve; HOULGRAVE, BOB; MUSZYNSKI, STEVE; Goggans, Tim; OSBORN, SHELAGH; Hystad, Bjarne; King, Michael; Andersen, Wenche Helgesen; Wilson, Joe
Subject: SEM 150 CPU Ram Chip

Niall, attached is the notification of a ram chip issue on two of the NaKika SCM's. Please review this and give me a call so we can agree on forward actions.

George W. Bradley
Subsea Systems
E: george.bradley@fmcti.com | P: 281-405-3015 |

FMC Technologies
1803 Gears Rd | Houston TX | 77067 USA
Phone: 281-591-4000 | Fax: 281-405-3031

FMC Technologies Inc

1777 Gears Road
Houston TX 77067
Phone 281 591 4000
Fax 281 591 4002

FMC Technologies

May 23, 2008

BP America Inc.
11700 Old Katy Rd.
Houston, TX 77079

Attention: **Bill Broman**
Reference: **Atlantis**

Subject: Product Notification (Subsea Control Module – SEM150 CPU RAM Chip)

Dear Sir:

We have noticed a small number of subsea communication and data handling issues that have been traced to a specific batch of RAM chips used on the CPU board included in the subsea electronic module (SEM) inside the SCM. Operational issues may manifest as unstable communication, SEM reset or RAM error in housekeeping data and in a few cases unwanted valve movement has been reported. A reboot of the CPU may be performed which could temporarily correct the issue.

FMC has been working with the CPU board manufacturer to understand the root cause and develop corrective actions to ensure that this RAM chip issue does not recur. A more comprehensive RAM test has been introduced at the CPU board manufacturer to detect these types of RAM issues in the future. In addition, we are investigating a potential software release to reduce the impact of these types of subsea communication and data handling issues.

Products Affected:

Our records show that the Subsea Control Modules supplied below were manufactured with RAM chips from the specific batch.

Project Name	Tree Number	SCM Part Number	SCM Serial Number	Installed/Wet
BP Atlantis	Not mounted	100049000	2	No
	Not mounted	100049000	3	No

Both Atlantis affected SCMs are not installed so FMC recommends that these SCMs be refurbished.

FMC Technologies regrets any inconvenience that these issues may have caused.

Our Project or Customer Service Manager will be contacting you shortly to answer any specific details on your SCMs and provide assistance with a recommended path forward. And of course, always please feel free to contact any of us at FMC Technologies at your earliest convenience.

Sincerely,

Robert Noe
Project Manager

cc: S.Barrett, B.Houlgrave, S.Muszynski, T.Goggans, S.Osborn, G.Bradley
Bjarne Hystad, Michael King, Richard Lalor, Wenche Andersen

From: Snyder, David D
Sent: Tuesday, June 17, 2008 10:53 AM
To: Ragan, Frank; Nagengast, Charles J
Cc: Ball, Michael A
Subject: Turbine Generator #2 Investigation Findings, RCFA and Defect Elimination Process Report

Frank/Chuck,

I was given the action item to compile all of the information that came out during the investigation of the shut down of #2 Generator that occurred on the 8th. I've completed that and sent the report up through the Operations chain but I also wanted to give you guys an advance copy of it. I'm not sure what the distribution of the document is going to be. I ruthlessly plagiarized information from notes sent by both Franks and wanted to pass on my thanks for that! I will say that a lot of the information that Frank Ragan provided confirmed information that had been discussed out here and put it into more technical language that made it more appropriate for the report.

RCFA for Turbine 1 Shutdown 8 ...

One last thing: I mentioned in the report that the proposed countermeasures needed to be dicussed and formalized. I'd like to see if we can try and carve out some time in the near future (either with me or Mike) where we can continue the PDCA process that Simon has directed. We are very much committed to providing feedback to the crews with the results of the investigation and how we're going to prevent reoccurrence (other than keeping people from opening valves with their ropes!!!).

Thanks,

Dave Snyder
Atlantis Maintenance Team Leader
Office: 337-735-2206

The Difficult accomplished immediately;
The Impossible takes just a little longer....

June 15, 2008

ROOT CAUSE FAILURE ANALYSIS REPORT

Gas Turbine Generator ZAN-5000 Shutdown

PURPOSE:

On June 8, 2008, #1 Gas Turbine Generator, ZAN-5000, shutdown without command or intention causing a T5.4 trip on #2 Gas Turbine Generator and ultimately a complete loss of power and production shut-in.

No formal RCFA Team was put together for this effort. Instead, information was gathered from several sources both on and offshore. Additionally, a process of "Defect Elimination" was developed. This process established a list of pertinent questions concerning the event and solicited input from all members of the Atlantis Team who had knowledge or experience with the Gas Turbines, Electrical Distribution, DCS, Electronic Load Shed, etc. It also asked for input from the Team on ideas for how this type of event can be prevented in the future.

The Maintenance Team Leader was assigned the Action Item to gather, compile and organize the provided information and to create this document.

SUMMARY OF EVENT:

1415:42 - Fuel Gas Supply Shutdown Valve (SDV-50011) for #1 Generator changed status and began to close.
1415:48 - The Turbine Control Panel (TCP) for #1 Generator sent an open command to the Liquid Fuel Supply Shutdown Valve (SDV-50001).
1415:49 - A Low Fuel Gas Pressure Alarm (AL0152) was received and SDV-50011 was confirmed closed.
1415:55 - TCP #1 indicated that SDV-50001 was opening.
1415:56 - TCP #2 alarmed with a Fuel Control Fault and High Turbine Inlet Temperature (T5.4) Overtemp.
1415:57 - TCP #1 indicated that the Diesel Fuel Supply Pump was running.
1415:58 - TCP #2 trips #2 Generator in response to the High T5.4 condition.
1415:58 - Electronic Load Shed System trips VRU #1 when Generator Breaker #2 trips.
1415:59 - TCP #1 trips #1 Generator prior to it coming back up to speed while trying to shift liquid fuel.

PQ goes dark.

INFORMATION:

The following questions were developed to aid in the elimination of this type of event.

1. Question #1 was: T-Gen #1 Shutdown when Fuel Gas Supply SDV closed; Why?
    a. The Fuel Gas SDV initially faulted due to the air supply being bled off of the valve. The bleed valve was apparently accidentally affected (nudged open) during work being conducted beneath the generator.
    b. The loss of Fuel Gas Pressure initiated the shift from Gas to Liquid Fuel.
2. Question #2 was: T-Gen #1 did not shift to Liquid Fuel; Why?
    a. As shown in the event log, the shift to Liquid Fuel was actually in progress. However, the time to shift exceeds the time that was available during the event.
3. Question #3 was: T-Gen #2 took the full load and then shutdown; Why?
    a. The nature of generators operating in parallel is such that if one slows down, the other, still at load speed will assume the load. The #2 Generator, as demonstrated in the event log, picked up the load all the way to a High Temperature trip on the turbine. This occurred so fast that the control system had no opportunity to protect itself prior to tripping off line.
4. Question #4 was: Load Shed did not work: Why?
    a. The Electronic Load Shed has two trigger events; either of which can cause the system to be activated. These are 1) opening of the generator breaker and 2) a normal stop being initiated.

b. The #1 Generator lost Fuel Gas pressure and attempted to shift to Liquid Fuel but did not trip until the last event.
c. The #2 Generator first picked up the load that was being shed by #1 but took too much and temped out. When it shutdown, its breaker tripped open and ELS activated, shutting down VRU #1 as programmed.
d. When #2 Generator shutdown and since #1 generator breaker was still closed, the engine was trying to shift over to liquid fuel and consequently was going faster then the engine that was shutting down, it tried to pick the load back up. The engine was incapable of sustaining itself and finally tripped off line on an engine flame-out.

5. Question #5 was: what was the Root Cause of the SDV closing?
   a. As stated above, it is believed that the handle on the three-way valve supplying air to the SDV was "nudged" open by work being done beneath the turbine enclosure.
   b. The root cause is not that the valve failed by the lack of awareness by the individual(s) doing the work beneath the enclosure.

PROPOSALS FOR ELIMINATING DEFECT:

1. It should be noted that after investigation, no "defect" was found in any of the affected systems.
2. As part of the Defect Elimination initiative, some suggestions have been made:
   a. To prevent the accidental opening of three-way valve:
      i. Removing the handles
      ii. Placing tie-wraps on the handles
      iii. Reinforcing awareness to personnel on board.
      iv. Of these suggestions, raising awareness and placing tie-wraps on the handles of critical three-way valves are the most recommended.
   b. To optimized the performance of the Electronic Load Shed system:
      i. Adding a SDV fault alarm as a trigger for Load Shed
   c. To optimize the operation of shifting from Fuel Gas to Liquid Fuel:
      i. There are several ideas that have been put forth including keeping the diesel pump running whenever the generator is running and keeping the Liquid Fuel SDV open during Gas Fuel operation.
      ii. Both of these ideas will require further investigation due to prior HAZOP/HAZID actions and an MOC created and approved for the changes.

PLAN-DO-CHECK-ACTION PROBLEM SOLVING PROCESS

Plan (A) - Problem Identification - COMPLETE

Determine the problem area:

Electronic Load Shed system was not triggered during incident causing total facility blackout.

Define the standard:

Atlantis should be able to lose one of the turbine generators without the facility going dark or a complete loss of production.

Define the current situation:

All equipment and systems are functioning as originally designed. The shortcoming of the ELS trigger and Gas-to-Liquid shifting became apparent during this event.

Determine the discrepancy:

The loss of the fuel gas supply SDV is not a trigger for ELS or shifting to liquid fuel. Additionally, the time frame from loss of open indication of this valve to shifting to liquid fuel guarantees a loss of the affected machine and a probable repeat of the loss of power facility shut-in.

Select a measurable goal:

Prevent future loss of power caused production shut-ins due to loss of SDV/Fuel Gas Pressure.

State the problem in statement form in order to brainstorm potential causes:

Institute change to programming to initiate ELS and/or shift to liquid fuel in the event of a loss of open indication of the fuel gas supply valve instead of waiting for the fuel gas pressure to decay to the point of auto-shifting to liquid.

Plan (B) - Cause Investigation - **COMPLETE**

Brainstorm potential causes to the problem:

A, B and C crews were given the opportunity to provide insight into potential causes of this incident.

Collect and analyze data related to the problem:

The MTL ensured that the C Crew personnel were aware of the process and given the opportunity to provide input prior to collecting the data.

Challenge the data with facts:

Several statements and questions were made or asked concerning why the ELS didn't work. The challenge to those statements is the fact the ELS acted as soon as it was instructed to do so by the triggers. The question concerning why the originally affected turbine didn't shift to Liquid Fuel has also been addressed - the engine was in fact in the process of shifting when the electrical load was dumped back onto it from #2 Generator.

Select Most Likely Causes based upon Team Impact:

The actual cause of the event was determined to be the opening of the air supply bleed valve on the Fuel Gas SDV by the inadvertent actions of personnel working beneath the turbine enclosure. This event made it possible to identify the discrepancy with the ELS and turbine control systems.

Establish a cause/effect relationship:

Same as previous statement.

Determine Root/Driver Cause:

Same as previous statement.

Plan (C) - Select Countermeasures - **INPROGRESS**

Brainstorm for countermeasures to address the root cause:

As mentioned, three crews were given the opportunity to provide comments and thoughts on both the cause and potential defect elimination. Also, several individuals on shore provided investigative input and possible corrective actions.

Select proper countermeasures based upon criteria:

Several ideas are in the review mode -

Add the Fuel Gas SDV Fault to the list of triggers for ELS
Keeping the Liquid Fuel SDV in open position
Keeping the Liquid Fuel (Diesel) pump operating while on Fuel Gas
Removing the handles from Air Supply Bleed Valves
Tie-wrapping the handles of the Air Supply Bleed Valves
Reinforcing the awareness of the cause and effects that tampering with these types of valves can have.

Coordinate and gain approval of leadership to implement countermeasures:

The above mention potential corrections/modifications will need to be discussed in future meetings prior to RFA or MOC implementation.

Do - Countermeasure Implementation

Develop a plan to implement the countermeasures selected:
Assign tasks:
Communicate plan:
Execute Pilot Plan with timelines and establish a tracking method:

Check - Study the Results

Monitor progress of the Pilot Implementation Plan:
Gather and analyze additional data as necessary:
Modify Implementation Plan as necessary based upon results:
Monitor results of the specific countermeasures that addressed the root cause:

Act - Standardize and Plan Continuous Improvement

Evaluate the results:
Standardize the effective countermeasures to prevent recurrence:
Share your success with other affected areas:
Plan on-going monitoring of the solution:
Start the PDCA process again to refine your countermeasures OR if results are uneven:
Continue with other improvement opportunities:

From: Young, Brian J
Sent: Wednesday, June 18, 2008 11:58 PM
To: Harrison, Rickey; Byrd, Wanda J; Boston, Julius; Oza, Nita
Cc: Ragan, Frank
Subject: JSEA for FMC Remote Login Well Commissioning Work

Follow Up Flag: Follow up
Flag Status: Flagged

All,
Please see the attached JSEA for FMC Remote Login Well Commissioning Work. I was having trouble logging in to ISSOW (I'm not even sure if I can do it from here), so I just did it the old fashioned way. Hope that's alright. Please let me know if I've missed anything or if you have any feedback.

JSEA SmartTool - enter DHG coe...

Thanks,
Brian

Brian J. Young
Subsea Engineer
Atlantis Subsea Ops
BP - GoM
Direct: (281) 366-3078
Fax: (281) 366-1600
Brian.J.Young@bp.com

GoM Job Safety and Environmental Analysis (JSEA)

Use with JSEA Preparation Checklist as a tool for identifying hazards.

Facility Location: Atlantis PQ / Houston office – WL4 **Date:** 6/19/2008

Job Task Performed: SmartTool Remote Login for Power & Comms checks and entering downhole gauge coefficients **PIC of Job:** Brian J. Young

PTW #:

1) **Assign The Right Team:** Knowledge, Experience, Committed, Confident, Empowered

2) **Understand The Steps / Define The Hazards:** Who knows the hazards? Gather appropriate resources.

3) **Execute:** Influence, Manage, Lead, Assign Responsibility to Recommended Actions to Reduce / Eliminate Hazards

Team Members (Print Name)	Job Title	Employer	Signature
Wanda Byrd	SS CRO	BP	
Julius Boston	SS CRO	BP	
Brian J. Young	SS Eng.	BP	
Nita Oza	SS Onshore TL	BP	
Polycarp Kamau	Aftermarket Support Engineer	FMC	
Henry Sun	Automation Engineer	Honeywell	

If procedures should change or the JSEA is revised, STOP the job! You MUST get approval from person-in-charge (PIC) of job before continuing.

- Is there anything associated with the work I am getting ready to do that could cause a fatality or serious injury to my co-workers or me?

Case 4:09-cv-01193 Document 343-10 Filed in TXSD on 04/04/12 Page 70 of 76

- How can the work I'm about to do adversely affect the other workers in or around my work site:

bp

GoM Job Safety and Environmental Analysis (JSEA)

Use the JSEA Preparation Checklist as a tool for identifying hazards.

Facility Location: Atlantis PQ / Houston office – WL4 **Date:** 6/19/2008

Job Task Performed: SmartTool Remote Login for Power & Comms checks and entering downhole gauge coefficients **PIC of Job:** Brian J. Young

PTW #:

Basic Job Steps (List the Tasks Involved)	Potential Hazards (What If? What Could Go Wrong?)	Controls for Identified Hazards (How To Eliminate Or Reduce Hazards?)	Name of Responsible Party for Putting Controls in Place
Remotely login to SmartTool from the Westlake 4 office.	This will allow FMC personnel to control the wells. If a wrong button is pushed, valves can be opened or closed leading to mechanical damage of the valves. If all of the valves and the choke on a well are opened, this could cause damage to the well completion.	Placing interlocks on the DC-113 valves will prevent PQ personnel from mistakenly opening valves. The FMC personnel will use a limited read/write access and "maintenance mode" when logging in to SmartTool. This will limit the user to only functioning one valve at a time (However, multiple trees can be affected at one time). Using maintenance mode will prevent commands from the HMI. This will help clarify communications between the parties involved. Only a trained competent FMC person will operate the SmartTool. A BP subsea engineer will provide oversight during the procedure. There is a procedure that will be followed. If the wrong access is used and the wrong button (function tree) is	Brian J. Young / Polycarp Kamau / Julius Boston / Wand Byrd / Henry Sun

Case 4:09-cv-01193 Document 343-10 Filed in TXSD on 04/04/12 Page 71 of 76

		selecting commanding all the tree valves to open, the choke will remain in the closed position by a hydraulic lock. Honeywell engineer will provide digital security assurance during this process.	
Follow Procedure (3478-ETR-3566 - Installation/Commissioning Procedure, Test Procedure, BP Atlantis Smarttool to SCM Communication Test (BPAT2710A) - Rev C) for performing power and communications assurance checks.	This will allow FMC personnel to control the wells. If a wrong button is pushed, valves can be opened or closed leading to mechanical damage of the valves. If all of the valves and the subsea choke on a well are opened, this could cause damage to the well completion.	Placing interlocks on the DC-113 valves will prevent PQ personnel from mistakenly opening valves. The FMC personnel will use a limited read/write access and "maintenance mode" when logging in to SmartTool. This will limit the user to only functioning one valve at a time (However, multiple trees can be affected at one time). Using maintenance mode will prevent commands from the HMI. This will help clarify communications between the parties involved. Only a trained competent FMC person will operate the SmartTool. A BP subsea engineer will provide oversight during the procedure. There is a procedure that will be followed. If the wrong access is used and the wrong button (function tree) is selecting commanding all the tree valves to open, the choke will remain in the closed position by a hydraulic lock.	Brian J. Young / Polycarp Kamau / Julius Boston / Wand Byrd
Follow Procedure (3478-ETR-3566 - Installation/Commissioning	This will allow FMC personnel to control the wells. If a wrong button is pushed, valves can	Placing interlocks on the DC-113 valves will prevent PQ personnel from mistakenly opening valves.	Brian J. Young / Polycarp Kamau / Julius Boston / Wand Byrd

Case 4:09-cv-01193 Document 343-10 Filed in TXSD on 04/04/12 Page 72 of 76

Procedure, Test Procedure, BP Atlantis Smarttool to SCM Communication Test (BPAT2710A) - Rev C) for entering the new downhole gauge coefficients.	be opened or closed leading to mechanical damage of the valves. If all of the valves and the subsea choke on a well are opened, this could cause damage to the well completion.	The FMC personnel will use a limited read/write access and "maintenance mode" when logging in to SmartTool. This will limit the user to only functioning one valve at a time (However, multiple trees can be affected at one time). Using maintenance mode will prevent commands from the HMI. This will help clarify communications between the parties involved. Only a trained competent FMC person will operate the SmartTool. A BP subsea engineer will provide oversight during the procedure. There is a procedure that will be followed. If the wrong access is used and the wrong button (function tree) is selecting commanding all the tree valves to open, the choke will remain in the closed position by a hydraulic lock.	

Case 4:09-cv-01193 Document 343-10 Filed in TXSD on 04/04/12 Page 73 of 76

bp

GoM Job Safety and Environmental Analysis (JSEA) – Preparation Checklist

This is a tool to assist with the completion of the JSEA form.

PPE Required
- ☐ hard hat / safety glasses / steel toe boots
- ☐ Hearing protection
- ☐ FRC
- ☐ Gloves
- ☐ Face shield / goggles
- ☐ Respiratory protection
- ☐ Other: _____

Procedures To Review
- ☐ Specific job procedures
- ☐ Permit to work*
- ☐ MOC*
- ☐ confined space entry*
- ☐ hot work
- ☐ cold cutting
- ☐ hot bolting
- ☐ energy isolation*
- ☐ SIMOPS
- ☐ lifting operations*
- ☐ ground disturbance*
- ☐ working at heights
- ☐ rescue plan for use of fall protection
- ☐ emergency action plan
- ☐ MSDS
- ☐ other: _____

Adequate Personnel
- ☐ knowledge / skills / experience
- ☐ training / orientation
- ☐ short service employees
- ☐ approved HSE contractor's list
- ☐ PIC of job identified
- ☐ communication among co-workers
- ☐ other: _____

Tools & Equipment
- ☐ proper tools & equipment available
- ☐ proper use of tools & equipment
- ☐ tools & equipment inspected for damage
- ☐ qualification of operator
- ☐ proper certification
- ☐ safety devices in bypass
- ☐ service / maintenance
- ☐ hot / cold surfaces
- ☐ equipment guarding
- ☐ other: _____

Hazardous Materials
- ☐ crude oil / natural gas / condensate
- ☐ flammable / combustible / explosive
- ☐ H_2S / SO_2 / CO
- ☐ acids / bases / corrosives
- ☐ radioactive materials/NORM
- ☐ dusts / gases / fumes
- ☐ poisons
- ☐ reactive chemicals
- ☐ other: _____

Energy Sources (Mechanical)
- ☐ rotating equipment
- ☐ pinch points
- ☐ sharp objects
- ☐ moving / dropped objects
- ☐ other: _____

Energy Sources (Pneumatic)
- ☐ sandblasting
- ☐ painting
- ☐ volume bottles
- ☐ air hoses
- ☐ air tools
- ☐ air tuggers
- ☐ cylinders (O_2 / acetylene / N_2)
- ☐ natural gas (vessels / tanks / piping)
- ☐ other: _____

Energy Sources, Electrical
- ☐ bare wiring
- ☐ shock hazards
- ☐ grounding on tools / equipment
- ☐ electric power tools
- ☐ electrical
- ☐ other: _____

Lifting
- ☐ lifting with crane
- ☐ lifting with hoist / come-a-long
- ☐ hoisting of tools w/ rope
- ☐ proper rigging practices
- ☐ manual lifting (body position)
- ☐ other: _____

Body Position / Movement
- ☐ prolonged awkward body position
- ☐ bending / twisting
- ☐ climbing / over extending
- ☐ crawling / crouching
- ☐ reaching / pulling / pushing
- ☐ carrying materials
- ☐ pinch points of body / hands
- ☐ other: _____

Weather Conditions
- ☐ rain / lightning
- ☐ excessive cold / heat
- ☐ wind / sea conditions
- ☐ other: _____

Physical Surroundings
- ☐ cluttered wa kways & work area
- ☐ slippery walking surfaces
- ☐ slips / trips / falls
- ☐ housekeeping
- ☐ work over open water
- ☐ open holes
- ☐ emergency egress identified
- ☐ low hanging pipes / supports
- ☐ lighting levels
- ☐ noise levels
- ☐ ambient temp (heat / cold stress)
- ☐ other: _____

Safe Location Factors
- ☐ geographic area (wildlife refuge)
- ☐ terrain (rough / wet / rocky / muddy)
- ☐ excavation (shoring / water table)
- ☐ adequate access / egress roads
- ☐ overhead wires
- ☐ lasers / x-rays / microwaves / UV
- ☐ other: _____

Roadways
- ☐ flagmen (PPE & training)
- ☐ signs / cones / flares / lights / reflectors
- ☐ transition, high / low asphalt to dirt
- ☐ speed of traffic on highway
- ☐ other: _____

Potential Pollution Factors
- ☐ spill procedures
- ☐ controlling waste (rags, pads, etc.)
- ☐ trash containment
- ☐ breaking flanges
- ☐ drip pans
- ☐ proper absorption pads
- ☐ making tie-in on ICP
- ☐ moving hoses & containers
- ☐ identify waste generation and procedures to use
- ☐ other:

Check waste generated:

1. For waste(s) checked, review procedures from Waste Management Manual.
2. **If waste(s) belong to contractor, contractor to** package, label and manifest waste per contractor procedures in prep for removal of waste from BP's location.
3. Review jobsite after work completion to ensure jobsite is cleaned.

- ☐ absorbent materials
- ☐ acetylene
- ☐ acid
- ☐ aerosol cans
- ☐ antifreeze
- ☐ aviation fuel
- ☐ barite (excess)
- ☐ batteries
- ☐ bulk containers (sacks)
- ☐ caustic soda
- ☐ cement (excess)
- ☐ ceramic pkg material
- ☐ chlorine tablets
- ☐ completion fluids
- ☐ cooking oil
- ☐ crude oil / condensate
- ☐ diesel fuel
- ☐ drilling fluids / cuttings
- ☐ drums (empty)
- ☐ filters (used)
- ☐ fluorescent light bulbs
- ☐ food waste
- ☐ freon TF solvent
- ☐ glycol
- ☐ halon
- ☐ metal cuttings
- ☐ metal, scrap (NORM free)
- ☐ methanol
- ☐ methyl ethyl ketone
- ☐ natural gas
- ☐ nitrogen
- ☐ NORM, equip, pipe
- ☐ NORM, produced sand
- ☐ NORM tank bottoms
- ☐ oil
- ☐ oxygen
- ☐ paint / paint waste
- ☐ paraffin
- ☐ pigs
- ☐ pipe dope
- ☐ produced water
- ☐ refuse, debris, contaminated
- ☐ sand, produced sand
- ☐ tank btm (NORM free)
- ☐ sandblasting materials
- ☐ sanitary wastewater
- ☐ thread protectors
- ☐ tires (used)
- ☐ trash
- ☐ Vertrel MCA solvent
- ☐ Other: _____

Other Potential Problem Areas

_____

_____

_____

_____

* Denotes Golden Rule

From: Rotolo, Anthony <anthony.rotolo@bp.com>
Sent: Thursday, June 19, 2008 3:41 PM
To: Knott, Ryan (TECHNIP) <rknott@technip.com>
Cc: Courville, Jeffery J <Jeffery.Courville@bp.com>; Oza, Nita <Nita.Oza@bp.com>
Subject: RE: Oil in Annulus on 822#9 due to ABV1&2 leaking

Ryan,
Nita can be reached at .

I am not sure I would have a big telecon.

Tony

Tony Rotolo

Subsea Commissioning Manager
BP Deepwater Projects - Thunder Horse

Technip: 281-249-1836
Mobile:

From: RKnott@technip.com [mailto:RKnott@technip.com]
Sent: Thursday, June 19, 2008 2:26 PM
To: Courville, Jeffery J; Rotolo, Anthony; Mitchum, Franklin L; Kelly, William G; Morgan, Johnny P; Locke, Billy S; Fleming, Ray H
Cc: Glenn, John M; Davis, Al P; Dawn, Jonathan (INTERN)
Subject: RE: Oil in Annulus on 822#9 due to ABV1&2 leaking

Jeff/Tony,

Is there anyway we could have a phone conference with either Nita and or Ron to discuss the specifics of this other known problem seen on Atlantis to ensure we don't have the same thing happen on Thunder Horse. Although unlikely (we would have probably seen it already) it will be good to understand the situation in detail so that we are completely covered in that aspect.

Let me know if a phone or meeting is possible in the next couple of days. Let me know what I need to do. Thanks.

Ryan J. Knott

Subsea Controls Specialist, Subsea Engineering Department

Office 281-249-1663

Mobile

From: Courville, Jeffery J [mailto:Jeffery.Courville@bp.com]
Sent: Thursday, June 19, 2008 2:17 PM
To: Rotolo, Anthony; Ryan Knott; Mitchum, Franklin L; Kelly, William G; Morgan, Johnny P; Locke, Billy S; Fleming, Ray H
Cc: Glenn, John M; Davis, Al P; Dawn, Jonathan (INTERN)
Subject: RE: Oil in Annulus on 822#9 due to ABV1&2 leaking

Tony,

You are correct that one of the events was an override by the smart tool.

However, there was also this other event that I was describing. It was Ron Berger and Nita that informed me of the uncommanded opening events.

thanks,

Jeff Courville
Subsea Engineer | GoM Deepwater |
200 Westlake Park Blvd. | Houston, TX 77079 |
Email: jeffery.courville@bp.com | Tel - 281.366.5277 |

From: Rotolo, Anthony
Sent: Thursday, June 19, 2008 2:14 PM
To: Knott, Ryan (TECHNIP); Courville, Jeffery J; Mitchum, Franklin L; Kelly, William G; Morgan, Johnny P; Locke, Billy S; Fleming, Ray H
Cc: Glenn, John M; Davis, Al P; Dawn, Jonathan (INTERN)
Subject: RE: Oil in Annulus on 822#9 due to ABV1&2 leaking

Jeff,
For reference, my understanding of what happened on Atlantis was that an inexperienced FMC engineer accidentally opened all of the valves simultaneously with the smart tool. I had not hear that they had continuous problems with this.

Please confirm with Nita Oza before chasing that rabbit.

Tony

Tony Rotolo

Subsea Commissioning Manager
BP Deepwater Projects - Thunder Horse

Technip: 281-249-1836
Mobile:

From: RKnott@technip.com [mailto:RKnott@technip.com]
Sent: Thursday, June 19, 2008 12:07 PM
To: Courville, Jeffery J; Mitchum, Franklin L; Kelly, William G; Morgan, Johnny P; Locke, Billy S; Fleming, Ray H
Cc: Glenn, John M; Davis, Al P; Dawn, Jonathan (INTERN); Rotolo, Anthony

Exhibit 107
Part 5

Subject: RE: Oil in Annulus on 822#9 due to ABV1&2 leaking

Jeff,

I agree with your observation of the flow rate needed in order to establish that communication. The idea of the Honeywell/FMC system opening valves without us knowing about it is news to me, but it is worth looking into with the Atlantis representatives. Also, the Smart Tool does not have historian capabilities and this information coming from the Smart Tool would have to have been logged at the time of interest in order for us to be able to pull data (from the Smart Tool).

If we have the exact times of interest, what we can do is check the event log within Honeywell to see if the valves were manipulated out of the ordinary sequence. We could then compare this against the times that we known to have operated them. I would be very interested to talk to the appropriate representative from Atlantis in order to make sure we do not end up having the same issue on Thunder Horse that they had.

Let me know where I can help on this issue. Thanks.

Ryan J. Knott

Subsea Controls Specialist, Subsea Engineering Department

Office 281-249-1663

Mobile

From: Courville, Jeffery J [mailto:Jeffery.Courville@bp.com]
Sent: Thursday, June 19, 2008 9:00 AM
To: Mitchum, Franklin L; Kelly, William G; Morgan, Johnny P; Locke, Billy S; Ryan Knott; Fleming, Ray H
Cc: Glenn, John M; Davis, Al P; Dawn, Jonathan (INTERN)
Subject: RE: Oil in Annulus on 822#9 due to ABV1&2 leaking

Frank,

I have been looking at the volume you mentioned (7bbls) is required in the Annulus from the pressure rise (700 psi) and the time period all this happened in was about 12 minutes. This would mean we would have a flowrate across 2 closed 1/2" valves of 24.5 gpm. This is definitely no plausible.

I am looking into what else may have happened during this time frame. There may have been another source for the communication, or the valves may not have been closed. Processnet shows that the valves were only open during your prep work on the well the morning before this event, but I know Atlantis had problems with their control system "mis-firing" valves without being commanded to do so. I don't know if that is what we are facing, but I am looking deeper into what is happening.

I also have worked out some details of how and what magnitude of pressure we would apply between the valves to prevent any flow by at low differentials. However, we need to think through what is happening before going this route.

Johnny / Ryan,

I need to understand how we can interrogate the FMC Smart Tool to see if these valves fired uncommanded. If we look at the pressure histories downstream of the DCVs on the ABV function, we should be able to see if the valves received control pressure.

Thanks,

Jeff Courville
Subsea Engineer | GoM Deepwater |
200 Westlake Park Blvd. | Houston, TX 77079 |
Email: jeffery.courville@bp.com | Tel - 281.366.5277 |

From: Mitchum, Franklin L
Sent: Tuesday, June 17, 2008 9:50 AM
To: Kelly, William G; Courville, Jeffery J
Cc: Glenn, John M
Subject: RE: Oil in Annulus on 822#9 due to ABV1&2 leaking

Al is right on the volume - it should have been 9.4 gal instead of the 2.5 from my original calculation - not sure where I missed a decimal because I checked it twice and compared it to the LDHI displacement volumes from Tony's commissioning. However, it will be immaterial to what we do. We've "burped" the line twice since the initial event - once toward the flowline, and once back into the well. Until we figure out what to do to keep the ABV valves opening, we will be putting oil into the casing on just about every upset.

I agree we need to come up with the long term solution. We'll need help from the flow assurance folks for this.....

Frank Mitchum
RE/PE - Thunder Horse
281-366-3469 (ofc)

From: Kelly, William G
Sent: Tuesday, June 17, 2008 9:05 AM
To: Courville, Jeffery J
Cc: Mitchum, Franklin L; Glenn, John M
Subject: FW: Oil in Annulus on 822#9 due to ABV1&2 leaking

Jeff,

FYI, I think we need to work this issue when Frank gets back onshore and determine a way forward. We may be able to delay doing anything immediately but we need a plan in place to move forward with if we have a long term shut-in of the well.

Bill

From: Davis, Al P
Sent: Monday, June 16, 2008 8:02 PM
To: Walz, Gregory S; Pattillo, Phillip D; Shada, Jack L
Cc: Emmerson, Tony C; Driscoll, Pete; Kelly, William G
Subject: RE: Oil in Annulus on 822#9 due to ABV1&2 leaking

Greg,

Some comments regarding oil in the annulus.

1. If 7 bbls of crude are in the annulus this will form an annular slug of oil about 140' high. If the well is shut in and the annulus cools, the plug would probably be about 45 to 47 deg. F. George Shoup has calculated that this crude could hydrate at about 75 F with about 10 ksi pressure and no gas present. A quick test at Westport Labs might define whether our annulus blend is likely to hydrate during a shut-in. Lower annulus pressure will be helpful, but the aqueous environment and nitrogen gas at lower temperature may offset reduced pressure affects. Frank mentions dry nitrogen, but I think our nitrogen will be saturated, at shut in temperature and pressure conditions, with either water vapor or glycol vapor or some combination of both. It may be possible to determine the exact phase conditions of the gas cap environment though phase equilibrium models that are commonly used in the refining business.

2. The gas cap vent line should have a volume of about 10 gallons, so the 8 gallons have not quite displaced all the oil in this line, but gravity may have broken the methanol through the oil column.

3. I have attached a report of fluid compatibilities that shows results of DowFrost with crude, and methanol with crude.

<< File: Thunder Horse Oil - Compatability.pdf >>

4. Probably will have no problems with this crude at flowing temperatures, but a shut-in may be a problem on re-start. A solid hydrate plug would likely cap the annulus fluids from expansion when the well is brought on-line. Production required to thaw-out the hydrate is likely to create an over-pressure of the capped annulus and burst the production casing versus collapse the tubing. Westport testing could give insight as to the potential for a crude hydrate plug of solid consistency.

5. Perhaps a strategy at shut-in of the well could be: to displace the crude out of the AAV by injecting DowFrost down the gas cap vent line forcing the crude out of the annulus through the AAV. The annulus could then be pressured up to an appropriate pressure to account for thermal cooling of the liquid filled annulus. A gas cap could then be installed at a later date immediately after crude displacement depending upon logistics of nitrogen supply.

Comments?

Regards,
Al

From: Walz, Gregory S
Sent: Monday, June 16, 2008 12:54 PM
To: Pattillo, Phillip D; Davis, Al P; Shada, Jack L
Cc: Emmerson, Tony C; Driscoll, Pete; Kelly, William G
Subject: FW: Oil in Annulus on 822#9 due to ABV1&2 leaking

Phil & Al,

Here is the best estimate of how much oil got into the backside and Frank's initial thoughts.

Al, as we just discussed, I think it will be good to get the fluid compatibility data to see what it tells us.

I inclined to agree with Frank's thought about not rushing into anything, but I do think it wise to gather the data. Do you guys have any other thoughts?

Gregg
Team Leader- Drilling Excellence
GoM Drilling & Completions

Office: 281-366-0281
Cell:
E-Mail:

From: Mitchum, Franklin L
Sent: Monday, June 16, 2008 12:19 PM
To: Kelly, William G
Cc: Walz, Gregory S; Ballard, Adam
Subject: RE: Oil in Annulus on 822#9 due to ABV1&2 leaking

Bill,

Qualitative estimate is 7 bbls. We pumped 8 gals of MeOH, which is almost 4 times the ABV line volume from my calculation. That should provide an interface from the DowFrost. The N2 is dry, so there's no water there.

I've given some thought about pumping N2 to displace the whole thing out until we're passing N2 through the ABV line, but we need to decide if that's a good thing - it would be a little complicated pushing it into the flowline. Adam Ballard doesn't think we have much risk of a hydrate at this point, so I don't think we want to be in a hurry to make a decision. But it could well be that the best thing to do is just leave it there.

I had asked the flow assurance folks to give some thought to it and consult with the Wells Team on whethor we should circulate it out or leave it there. My current thinking is to leave it there, but will defer to the smarter folks on the issue.

Frank Mitchum
RE/PE - Thunder Horse
281-366-3469 (ofc)

From: Kelly, William G
Sent: Monday, June 16, 2008 10:53 AM
To: Mitchum, Franklin L
Cc: Walz, Gregory S
Subject: Oil in Annulus on 822#9 due to ABV1&2 leaking

Frank,

Do you have some estimate of the amount of oil that bled into the annulus? Also how much methanol did we pump into the annulus?

There is some concern about potential for hydrates long term on this well with oil in the annulus. What are your thoughts on possibly circulating the oil out long term?

No hurry , when you get time I would like some feedback.

Thanks,

Bill

From: Cotham, Mickey <Mickey.Cotham@fmcti.com>
Sent: Friday, June 20, 2008 1:47 PM
To: Oza, Nita <nita.oza@bp.com>; Young, Brian J <Brian.J.Young@bp.com>
Cc: Whitehead, David K (Technip) <whitdz@bp.com>; Bristol, Erik <ERIK.BRISTOL@fmcti.com>; Dunlap, Dirksen <Dirksen.Dunlap@fmcti.com>; Leal, JJ (FMC) <JJ.Leal@fmcti.com>; Hughes, John D <hughesjd@bp.com>
Subject: Spares listing for SPCU on PQ

Below is list of spares for SPCU.

IBOM MIR/SDR *** FMC PRIVATE *** SPEC INDEXES: C E G M P Q W
FMC ENERGY SYSTEMS
REPORT BY: Freeman, Tiffany 24-SEP-2007 Page: 1 OF 3
PART REPORT

PART DESCRIPTION

PART NUMBER: P1000007004
REVISION: C
ECN: 1124347
KIT, SPARES, SPCU COMMISSIONING SPARES, BP ATLANTIS
DRAWING NO: NO-DWG
DRAWING REV: NA
DWG OWN:

TYPE: N STATUS: RELEASED OWNERSHIP: HOU AE UOM: EA WEIGHT: LBS (KGS)

PART DATA

PROD SPEC : See GWI045
MATL CLASS:
PR# :
TEMP RANGE:
GR# :
QUALITY LVL: PSL 3
SRV CLASS:

REVIEWED BY: Strickler, Mike REVIEW DATE : 24-SEP-2007
APPROVED BY: Spangler, Ron APPROVAL DATE: 24-SEP-2007

BILL OF MATERIAL

ITEM	PART NUMBER	DESCRIPTION	DWG NUMBER	UM	QTY	MATERIAL
1	200017915	POWER SUPPLY 5V/12V/12V/24V, LAMBDA UK	NO-DWG	EA	1	
2	200016607-BAD			EA	1	
3	200017865	LEGACY ITEM			1	
4	200016614	CURRENT TRANSFORMER, 50A, 4-20MA, GAVAZZI	NO-DWG	EA	1	
5	200014575	ELECTRICAL COMPONENTS, RELAY, 4-WAY, 5A/30V MAX CURRENT, 24VDC COIL VOLTAGE, GOLD PLATED CONTACTS, SUPPLIED BY RELECO, P/N C9-A42X24D	NO-DWG	EA	1	
6	200019035	OVERL. RELAY 1A-1,6A TELEMECANIQUE, LRD06	NO-DWG	EA	1	
7	200017720	OVERVOLTAGE RELAY 15-600V, EUH, CROUZET	NO-DWG	EA	1	
8	200017621	PANEL INSTRUMENT CABINET INPUT CURRENT, RANGE 4-20MA / 0-6A, MEASURE RANGE 3A/6A, SUPPLIED BY DRAMMEN ELEKTRO AUTOMASJON, P/N	NO-DWG	EA	1	

		DA13-NA40/A12R.			
9	200016638	ETHERNET HUB, 8X100/10BASE-T-ETH. SWITCH	NO-DWG	EA	1
10	100022129	COOLING FAN, RITTAL SK3144.000	NO-DWG	EA	1
11	200018853	COOLING FAN, TYPE DL 400	NO-DWG	EA	1
12	100016342	ADAPTER TEMRA200	NO-DWG	EA	2
13	100027506	PLMT160 TOPSIDE MODEM	NO-DWG	EA	3

(continued...)

BILL OF MATERIAL (Continued)

ITEM	PART NUMBER	DESCRIPTION	DWG NUMBER	UM	QTY	MATERIAL
		2400 BAUD				
14	100020239	1PMC/COMPACT PCI ETHERNET CONTROLLER	NO-DWG	EA	1	
15	100020240	SERIAL CARD PMC-HS SERIAL	NO-DWG	EA	1	
16	100010843	LNCT200-3F LINE COUPLER TOPSIDE BOARD	NO-DWG	EA	2	
17	100036487	SBC WITH BOOTSTRAP KS200/150	NO-DWG	EA	1	
18	100029636	FIL161 TOPSIDE FILTER BOARD, 2400 BAUD	NO-DWG	EA	2	
19	P1000006999	ELECTRICAL COMPONENTS, RELAY, 3 POLES, SQUARE BASE, AC POWER, 16A/500VAC, 0.5A/110VDC, FREE WHEELING DIODE, LINE SECTION RELAY, USE C5 S5S BASE.	NO-DWG	EA	1	
20	P155490	ELECTRICAL COMPONENTS, PLC, MODULE, GE VERSAMAX CPU, 64K CONFIGURABLE MEMORY, 0.8MS/K, 2 SERIAL PORTS RS323/485, AND 1 ETHERNET PORT 10BASE T. IC200CPUE05.		EA	1	
21	P155497	ELECTRICAL COMPONENTS, PLC, ANALOG, INPUT MODULE, 12 BITVOLTAGE/CURRENT 8 CHANNELS, WITH LED DIAGNOSTIC INDICATOR, RANGES 4-20MA/0-10V AND +/-10V. GE VERSAMAX IC200ALG260.		EA	2	
22	P155498	ELECTRICAL COMPONENTS, PLC, DIGITAL, INPUT OUTPUT MODULE, 12/24VDC POSITIVE LOGIC, 32 CHANNELS, 16 DISCRETE		EA	2	

		INPUTS/16 DISCRETE OUTPUTS, GE VERSAMAX IC200MDD844.		
23	P155499	ELECTRICAL COMPONENTS, PLC, MODULE, POWER SUPPLY FOR GEVERSAMAX IC200CPU, 18 TO 30VDC INPUT WITH EXPANDED 3.3VDC, 11WATTS, 5VDC/3.3VDC OUTPUT AT 1.5A MAXIMUM.	EA	1

(continued...)

BILL OF MATERIAL (Continued)

ITEM	PART NUMBER	DESCRIPTION	DWG NUMBER	UM	QTY	MATERIAL
		IC200PWR002.				
24	P155502	ELECTRICAL COMPONENTS, PLC, UNIT, GE VERSAMAX TERMINAL I/O CARRIER.	NO-DWG	EA	1	
25	P177977	MONITOR, INSULATION, GROUND FAULT, SUPPLY VOLT 88 TO 264VAC, 14VA, OPERATING UN 0-793V, RANGE 1KOHM TO 10MOHM, MAX LEAKAGE CAP 150UF, CURRENT OUTPUT 4 TO 20MA, INTERFACE RS485, BACK COVER, -10C TO 55C OPER TEMP, BENDER IRDH375B-435.	NO-DWG	EA	1	

QUALITY MATRIX: 1QM0000

SECTION: 5.1.1 REV: A OWNER: HOU COE STATUS: RELEASED
COMMERCIAL AND MISCELLANEOUS PRODUCTS

Q00501 MARK AT LOCATION SHOWN ON DRAWING/SPECIFICATION.

Q02500 VISUAL EXAMINATION.

Q00651 HANDLING, STORAGE, AND SHIPPING.

END OF PART

Mickey Cotham
Subsea Controls Work Package Lead PM
P: 281-591-4569 : F: 281-591-4548

FMC Technologies, Inc
1777 Gears Rd, Houston, TX 77067 USA

P: 281-591-4000
www.fmctechnologies.com

This communication (and/or the documents accompanying it) may contain confidential information belonging to the sender or intended recipient. The information is intended solely for the use of the individual or entity named above. If you are not the intended recipient, you are hereby notified that any disclosure, copying, distribution or the taking of any action in reliance on the contents of this information is strictly prohibited. If you receive this communication in error, please notify us immediately by telephone to arrange for the return of the documents.

bp

Management of Change

= Required Field

MOC #: MOC-GC787-08-0153
Date Initiated: 7/25/2008
Initiated By: Ragan, Frank

MOC Type:	Technical	MOC Status:	impl
Facility:	Atlantis	Expected Startup Date:	9/30/2008
System:	Electrical	RFA #:	GC787-0051
Verifier/Coordinator:	Ragan, Frank	Priority:	B (Med)
Shutdown Required:	Equipment	Priority Reason:	Safety
MOC Duration:	◉ Permanent ○ Temporary	Emergency Change:	○ Yes ◉ No

Title:

Add Bypass to HESS trip of E-Gen in Demand Mode

Scope:

Add a bypass switch to inhibit the HESS trip of the Emergency Generator while in Demand (Emergency) Mode. This switch will permit the crew to temporarily bypass the HESS trip signal when relivening the platform after abandonment.

Justification:

Experience has shown that conditions present before shutdown may leave the HESS in a state that trips the generator before the crew has time to reset the condition. The bypass would be applied to allow sufficient time to reset the trip condition.

bp

Management of Change

= Required Field

MOC #: MOC-GC787-08-0153
Date Initiated: 7/25/2008
Initiated By: Ragan, Frank

MOC Type:	Technical	MOC Status:	unapp
Facility:	Atlantis	Expected Startup Date:	9/30/2008
System:	Electrical	RFA #:	GC787-0051
Verifier/Coordinator:	Ragan, Frank	Priority:	B (Med)
Shutdown Required:	Equipment	Priority Reason:	Safety
MOC Duration:	⊙Permanent ○Temporary	Emergency Change:	○Yes ⊙No

Title:

Add Bypass to HESS trip of E-Gen in Demand Mode

Scope:

Add a bypass switch to inhibit the HESS trip of the Emergency Generator while in Demand (Emergency) Mode. This switch will permit the crew to temporarily bypass the HESS trip signal when relivening the platform after abandonment.

Justification:

Experience has shown that conditions present before shutdown may leave the HESS in a state that trips the generator before the crew has time to reset the condition. The bypass would be applied to allow sufficient time to reset the trip condition.

Atlantis Lightship Alteration Weight Form

bp

⚠ This form must be filled out as part of all Management of Change, Site Query and Site Instruction processes. Please use the decision chart below or the definition of lightship in the Atlantis Operating Manual (section 2.7.3) to determine if the project will affect Atlantis lightship weight. In any case, the form must be approved by the Atlantis Marine Team Leader before work begins.

⚠ Final lightship alteration information must be provided in order to close out the project. Please review the work that was done and provide updated information corresponding to the actual material used and final locations.

Management of Change, Site Query or Site Instruction number: MOC-GC787-08-0153

Originator: Frank Ragan **email:** frank.ragan@bp.com

Brief description of the project: Add Bypass Switch to E-Gen Panel

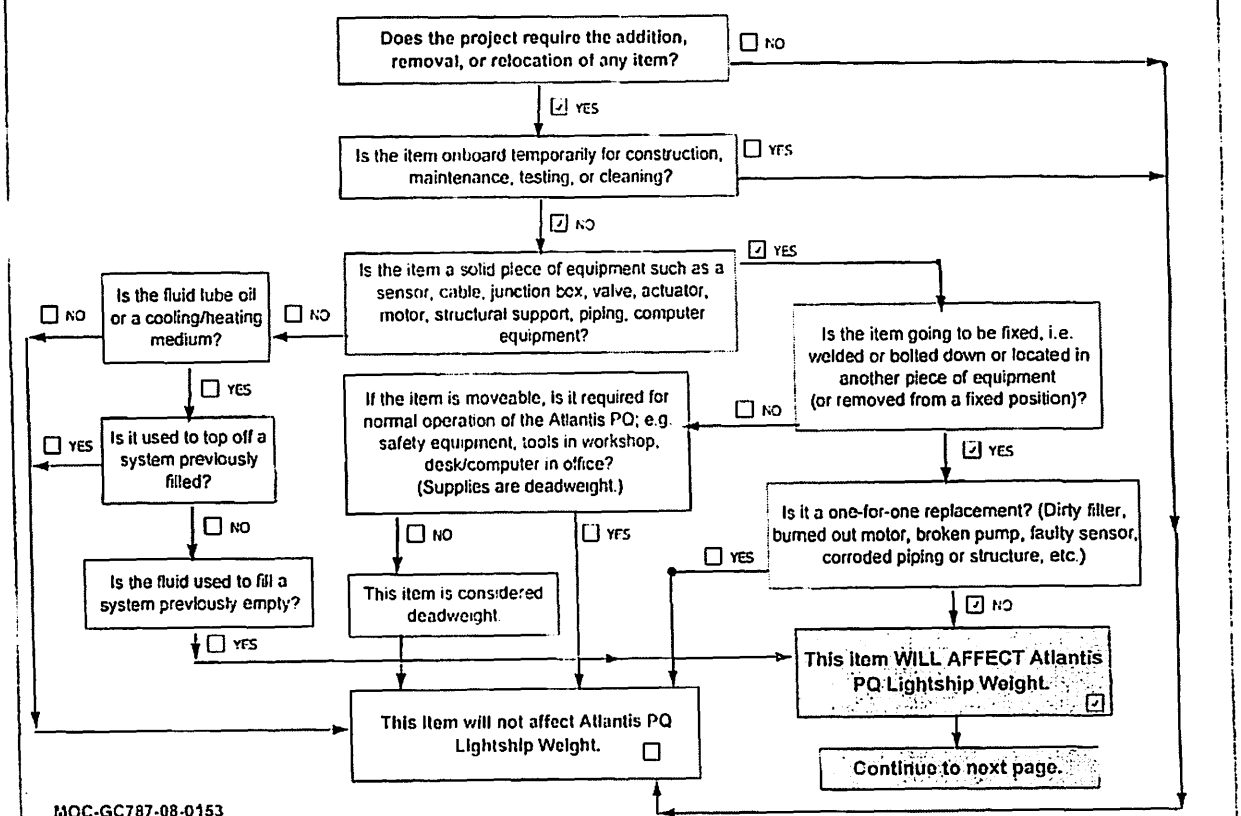
Net weight impact in pounds: 2 lbs **Preliminary** ☐ **Final** ☑

Date of execution – from (mm/dd/yy): 8/1/2008 **to :** 11/1/2008

Location*: Emergency Switchgear Room - LQ1501

* Inside hull or deck house: please provide room number. Main deck or topsides modules: please provide general area as defined on weight management grid. For relocations, please provide initial (–) and final (+) locations.

Lightship decision chart: Review every item used in the project. Check the Yes / No boxes accordingly.



Atlantis Lightship .eration Weight Form

List the lightship items to be added, removed or relocated during the project. Small items such as screws, fittings, couplings, etc. can be listed in bulk. Describe the location of each item as accurately as possible. For distributed items such as cables or pipes, please specify end locations. Check the "Picture" column if a picture or sketch is provided. Check two of the last six columns as appropriate.
*Attach calculations, vendor datasheets or weight certificates as appropriate.

SHEET ___ OF ___

(Make copies of this page if the list is longer than 15 items)

Item description	Location	Picture	Unit Weight	Quantity	Total Weight (lbs) *	Addition	Deduction	Relocation	Calculated *	Vendor Data *	Weighed *
Switch	LQ1501 - E-Gen Control	☐	1	1	1	☑	☐	☐	☑	☐	☐
Misc Wire, Ferrules, and Tie-wraps	LQ1501 - E-Gen Control	☐	1	1	1	☑	☐	☐	☑	☐	☐
		☐				☐	☐	☐	☐	☐	☐
		☐				☐	☐	☐	☐	☐	☐
		☐				☐	☐	☐	☐	☐	☐
		☐				☐	☐	☐	☐	☐	☐
		☐				☐	☐	☐	☐	☐	☐
		☐				☐	☐	☐	☐	☐	☐
		☐				☐	☐	☐	☐	☐	☐
		☐				☐	☐	☐	☐	☐	☐
		☐				☐	☐	☐	☐	☐	☐
		☐				☐	☐	☐	☐	☐	☐
		☐				☐	☐	☐	☐	☐	☐
		☐				☐	☐	☐	☐	☐	☐
		☐				☐	☐	☐	☐	☐	☐

Reviewed by: _____ Atlantis Weight Coordinator

Reviewed by: _____ Atlantis Marine Team

Approved by: _____ Atlantis Marine Team

MOC-GC787-08-0153

BPEP_ABB_04135784

Emergency Generator Control Panel
Proposed Switch Addition

Atlantis Offshore Work Package
Cover Sheet

bp bhpbilliton

Rev No.	By	Rev'd	Date	Delivery Team:	Maximo Number:
0	FXR		19-May-08	Maintenance	
				AFE Number: n/a	RFA/MOC Reference Number RFA-GC767-0051

Work Package Title:
Add HESS Bypass Switch to E-Gen Control Panel

Scope Of Work:
Install a keyed bypass switch in the face of the Emergency Generator Control Panel to bypass the HESS interlocks during a hurricane relivening This will require that a new hole be punched in the panel, installation of the switch, and additiona 24 VDC wiring to include this switch in the control circuit.

WORK PACK PREDECESSORS

Work Pack Number	Work Package Title
n/a	*There are no predecessors to this work pack.*

ASSOCIATED WORK PACKAGES

Work Pack Number	Description
n/a	*There are no associated work packs to this work pack.*

ASSOCIATED ACTIVITIES

Activity No.	Description	Duration	Preceding Act.	System No.
				0831

DOCUMENT INDEX
(Include Work Pack Documents, Reference Drawings, Specs, and Procedures)

Attachment #	Rev No.	Description
1	3 (redlined)	Point Eight 3980 sheet 2 Emergency Generator DC Schematic (1 of 4)
2	n/a	Sketch of instrument loop revision for loop ATM-X-8310038

Atlantis Offshore Work Package Procedure

bp bhpbilliton

Rev No.	By	Rev'd	Date	Delivery Team:	Maximo Number: 0
0	FXR		19-May-08	Maintenance	
					RFA/MOC Reference Number RFA-GC787-0051

Work Package Title:

Add HESS Bypass Switch to E-Gen Control Panel

PROCEDURES (STEP BY STEP PLANS)

Activity No.	Step No.	Description	Duration	Manhours
			Total	0

Atlantis Offshore Work Pack
Labor Requirements

bhpbilliton

Rev No.	By	Rev'd	Date
0	FXR		19-May-08

Delivery Team: Maintenance

Maximo Number: 0

RFA/MOC Reference Number
RFA-GC787-0051

Work Package Title:

Add HESS Bypass Switch to E-Gen Control Panel

LABOR RESOURCES

Contractor	Description / Discipline	Quantity	U/M	Mhr/Unit	Total Mhrs
					0.0
					0.0
					0.0
					0.0
					0.0
Travel Time					
					0.0
					0.0
					0.0
Standby Time					
					0.0
					0.0
	Total Manhours				0.0

Atlantis Offshore Work Pack
Materials Requirements

bhpbilliton

Rev No.	By	Rev'd	Date
0	FXR		19-May-08

Delivery Team:
Maintenance

Maximo Number: 0

RFA/MOC Reference Number
RFA-GC787-0051

Work Package Title:
Add HESS Bypass Switch to E-Gen Control Panel

MATERIALS

Item No.	Quantity	Description	Supplier	Required By

Atlantis Offshore Work Pack
Special Requirements

bp bhpbilliton

Rev No.	By	Rev'd	Date
0	FXR		19-May-08

Delivery Team: Maintenance

Maximo Number: 0

RFA/MOC Reference Number
RFA-GC787-0051

Work Package Title:
Add HESS Bypass Switch to E-Gen Control Panel

SPECIAL REQUIREMENTS

RK PERMITS REQUIRED (Y/N)

Permit to Work	Hot Work	Confined Space:	Open Hole:	Other:

SPECIAL CONSTRUCTION/TESTING EQUIPMENT & UTILITIES:

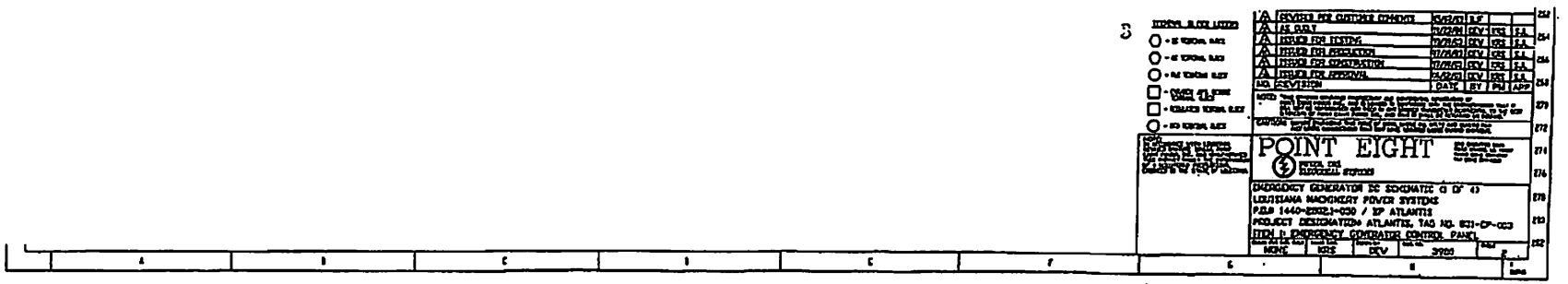
SPECIAL INSTRUCTIONS:

QA/QC REQUIREMENTS

REGULATORY CHECKPOINTS

Case 4:09-cv-01193 Document 343-11 Filed in TXSD on 04/04/12 Page 21 of 67

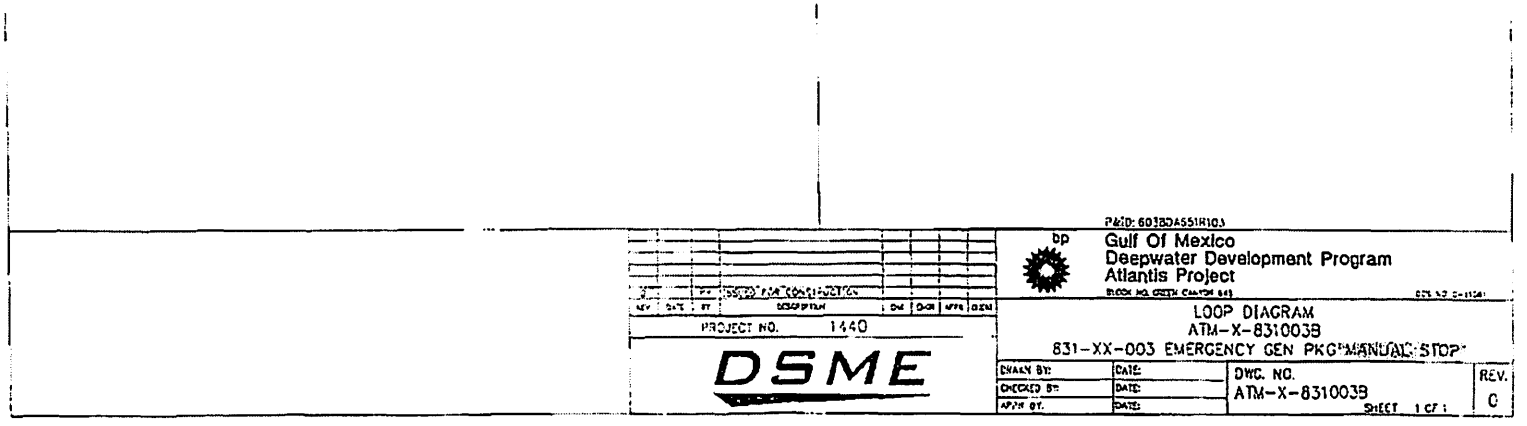
REDACTED



BPEP_ABB_04135792

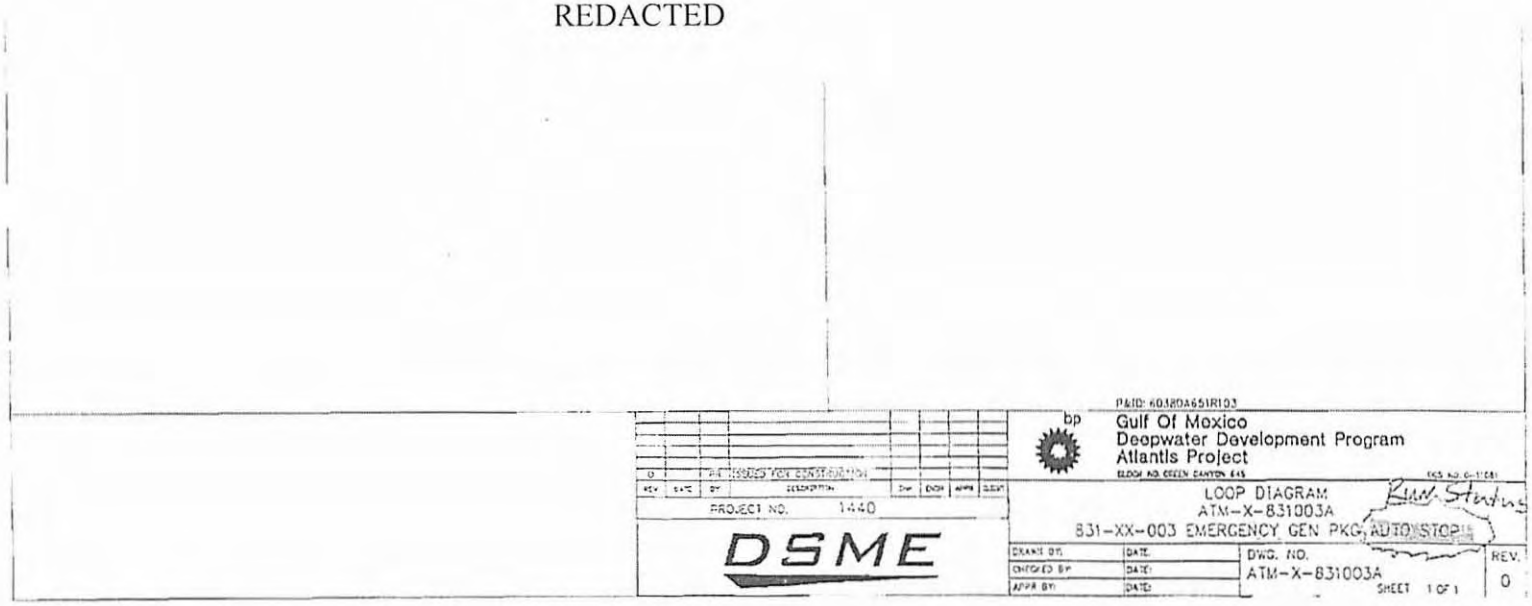
REDACTED

REDACTED


P&ID: 6038DA551R103
bp
Gulf Of Mexico
Deepwater Development Program
Atlantis Project
LOOP DIAGRAM
ATM-X-8310038
831-XX-003 EMERGENCY GEN PKG "MANUAL STOP"
PROJECT NO. 1440
DSME
DRAWN BY:
CHECKED BY:
APVD BY:
DATE:
DWG. NO.
ATM-X-8310038
REV.
C
SHEET 1 OF 1

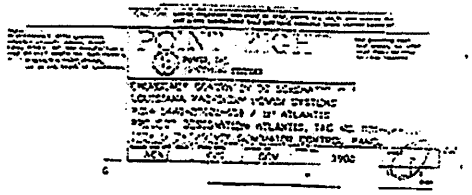
Case 4:09-cv-01193 Document 343-11 Filed in TXSD on 04/04/12 Page 24 of 67

REDACTED



Case 4:09-cv-01193 Document 343-11 Filed in TXSD on 04/04/12 Page 25 of 67

REDACTED



bp

MOC Reviews ?

! Comments have been added for this MOC

MOC #: MOC-GC787-08-0153
Date Initiated: 7/25/2008
Initiated By: Ragan, Frank

Reviews Required	Responsible Person	Disposition		Completed By
Technical Review	DeJohn, Kenneth P	◉ Agree	○ Disagree	DeJohn, Kenneth P
O&M Review	Atlantis Maintenance	◉ Agree	○ Disagree	Ball, Michael
HSE Review	Atlantis Offshore HSE	◉ Agree	○ Disagree	Bertrand, Chris
Design Safety Review	Atlantis Process Revi	◉ Agree	○ Disagree	Waterhouse, David
Weight Review	Atlantis Weight Revie	◉ Agree	○ Disagree	Longley, J D
		○ Agree	○ Disagree	
		○ Agree	○ Disagree	
		○ Agree	○ Disagree	
		○ Agree	○ Disagree	
		○ Agree	○ Disagree	
Technical Authority Review (as needed)		○ Agree	○ Disagree	
Engineering Authority Review (as needed)		○ Agree	○ Disagree	

Does this change require a deviation from Technical Practices or Industry Standards ? ○Yes ◉No

Does this change require Technical Authority Review ? ○Yes ◉No

Does this change require Engineering Authority Review ? ○Yes ◉No

Does this change require any weight to be added or removed ? ◉Yes ○No ?

bp

Management of Change

MOC #: MOC-GC787-08-0153
Date Initiated: 7/25/2008
Initiated By: Ragan, Frank

MOC Requirements/Responsibilities:

Proceed with MOC Process ? (•) Yes ( ) No ( ) Request Clarification ?

PSSR Responsibility: Atlantis Operations Enginee ... ?

Startup to be Authorized by: Atlantis OIM ... ?

Work Package:

Eng. Work Package Target Date:	7/27/2008	Work Order # (If required):	
Onshore contact:	F Ragan	Cost Code(AFE)/WBS Element:	
Offshore contact:	M Ball / D Snyder	Vendor/Supplier Info:	W-Industries
Pay Key:		Purchase Order #:	

Hazard Assessment:

Hazard Assessment Type: What If ?

☐ Hazard Assessment Attached

Hazard Assessment Results:

Hazard Assessment results should be either attached or entered below

This switch will increase the personnel safety upon the relivening of the facility.

Current practice is to open the cabinet and remove an interposing relay to defeat the trip condition. Once the facility has been restarted, and any trips reset, the relay must be reinstalled in the cabinet.

Adding a switch accessible from the front panel eliminates the need for a worker to enter the panel, and eliminates the risk of human error (pulling the wrong relay). The effects of pulling the wrong relay could include defeating USCG required shutdown circuits that protect against engine damage and personal injury.

The addition of this switch is an engineered addition to replace a human intervention.

Work Control Certificate: 00002036 Permit Electrical Authorized

Control Certificate	ID: 00002036 State: Authorized
CC Type/ Category:	Permit/ Electrical
Task Description:	Troubleshoot SPCU-2 SBC-1B

Task Description

Requested By:	Dennis Thomas
Task Description Details:	Troubleshoot SPCU-2 Single Board Computer 1B to determine reasoning for faults. Refer to GC787-SS-044 FMC SBC Diagnostics SPCU-2 SBC-2B rev2.doc for procedural steps.
Site: Installation: Task Location: Task Area:	Gulf of Mexico Atlantis Lower Level GM-LL-East
Secondary Location Area:	Hull-LD-South
Equipment ID/Tag Number:	SPCU-2
Equipment Description:	Subsea Power and Control Unit Single Board Computer
Lead Discipline:	Maintenance
Planned Start Date and Time:	07/29/08 06:00
Validity Period:	14 days
Number of People:	3
Isolation Type:	None
Supporting Certificates:	
Maintenance Management No:	
Additional References:	Lessons: None Audit: None Gas Test: None

Authorization History

Name	Action	Date & Time	Authority
Joe Powell	Authorized	Jul-29-2008 07:44:23	OIM
Ricky McClanahan	Verified	Jul-28-2008 19:30:28	IA
Dennis Thomas	Update	Jul-28-2008 16:22:25	PA
Dennis Thomas	Copy	Jul-28-2008 16:12:16	PA

Work Control Certificate: 00002036 Permit Electrical Authorized

JSEA	State : JSEA - Accepted	
Hazard / Control	Type	In Place
Establish communication before job begins.		
LACK OF COMMUNICATION OR IMPROPER COMMUNICATION CAUSING JOB TO SLOW DOWN		
SEVERAL COMMUNICATION MEANS (PRIMARY AND BACKUP) WILL BE ESTABLISHED DURING JSEA MEETING	Supp	
PARTIES NOT KNOW WHAT COMMUNICATION DIVICES WILL BE UTILIZED		
MEANS OF COMMUNICATION WILL BE 900 MHZ CHN 06 AND PHONE.	Supp	
Review JSEA and Procedural document prior to any work		
PARTIES NOT KNOW EXACTLY WHAT IS TO TAKE PLACE		
PROPER COMMUNICATION BETWEEN ALL PARTIES INVOLVED IN JOB	Supp	
Communicate intentions to Leadership Team		
LT BEING UNAWARE OF WHAT IS TO OCCUR		
PROPER COMMUNICATION TO LT REGARDING WORK TO BE CARRIED OUT.	Supp	
Place red tape around SPCU cabs and surrounding area		
DANGER TO PERSONNEL NOT INVOLVED IN JOB DUE TO LIVE ELECTRICS IN CABINET		
ONLY PEOPLE INVOLVED DIRECTLY IN SPCU CABINET WORK AND WHO HAVE REVIEWED AND SIGNED THE JSEA WILL BE ALLOWED ACROSS RED TAPE	Supp	
SECURE OR REMOVE ANY OBJECTS ON YOUR PERSON WHICH COULD BECOME ENTANGLED WHILE WORKING WITHIN THE CABINET.	Supp	
BE AWARE OF ALL ACTIONS WHICH ARE TAKING PLACE WITHIN THE CABINET	Supp	
CABINET DOORS TO BE SECURED WHILE NO WORK IS OCCURING IN CABINET	Supp	
SLIPS, TRIPS, FALLS DUE TO TEMPORARY CABLES, SEATS, AND TABLE WHICH ARE NOT USUALLY IN THE AREA.		
ALL ITEMS INCLUDING TEMP. CABLEING WILL BE KEPT IN AN ORGANIZED STATE TO PREVENT ANY TRIPPING.	Supp	
Work to commence in accordance with latest revised doc		
NOT UTILIZING THE TROUBLESHOOTING DOCUMENT COULD RESULT IN ACTIONS OCCURING OUT OF SEQUENCE		
WORK WILL BE CARRIED OUT IN ACCORDANCE WITH PREDEVELOPED PROCEDURE WHICH WAS AUTHORED BY SUBSEA ENGINEERING AND FMC.	Supp	
Closing and opening of electrical breakers		
ELECTRICAL SHOCK		
PROPER TECHNIQUES TO BE USED WHILE TRANSITIONING BREAKER STATES	Supp	
BREAKERS TO BE OPENED/CLOSED ONLY BY QUALIFIED AND COMPETANT PERSONNEL	Supp	

Work Control Certificate: 00002036 Permit Electrical Authorized

JSEA — **State : JSEA - Accepted**

Hazard / Control	Type	In Place
OPENING OR CLOSING OF INCORRECT BREAKER		
NO FURTHER WORK WILL OCCUR UNTIL ALL COMMUNICATION IS BACK IN CONTROL OF THE SSCRO AND SSCRO IS STATES THAT WORK CAN COMMENCE AGAIN	Supp	
SHOULD THE WRONG BREAKER BE ALTERED, THE SSCRO WILL IMMEDIATLY BE NOTIFIED AND BREAKER STATE WILL BE REVERTED BACK TO THE PREVIOUS POSITION.	Supp	
BREAKER STATES WILL ONLY BE ALTERED AS PER PROCEDURE AND DOUBLE CHECKED BEFORE ACTIONS TO OCCUR	Supp	
NOT RETURNING BREAKER POSITIONS TO CORRECT POSITION ONCE JOB IS COMPLETE		
BREAKER STATES WILL BE PUT BACK IN THE CORRECT POSITION BEFORE THE JOB IS COMPLETE.	Supp	
Worksite to be policed after work is complete		
SLIPS, TRIPS, FALLS		
ALL TEMP CABLES, CHAIRS, AND TABLES WILL BE PUT BACK IN PROPER LOCATION	Supp	
ONCE JOB IS COMPLETE, THE WORKSITE WILL BE POLICED FOR ALL TRASH AND DEBRIS	Supp	
Findings of troubleshooting effort to be communicated		
INTERESTED PARTIES BEING UNAWARE OF FINDINGS		
FINDINGS TO BE COMMUNICATED TO ALL PARTIES INVOLVED	Supp	

Referenced ICCs

ID	Title	JSEA Status

Cross-Referenced Certificates

WCCs Live / Live		WCCs Live / Not Live		WCCs Start / Finish	
Ref To:	Ref By:	Ref To:	Ref By:	Ref To:	Ref By:

Workpack

ID	Description

External Document References

Title

View JSEA

Control Certificate

ID:	00002036
CC Type / Category:	Permit / Electrical
State:	Authorized
Task Description:	Troubleshoot SPCU-2 SBC-1B
Installation:	Atlantis
Task Location:	Lower Level
Task Area:	GM-LL-East
Number of People:	3

JSEA Status - Accepted

JSEA Team Members

Name
Brian J. Young
Darren Patt
Dennis Thomas
Aneet Nehra, FMC Engineer (Additional Team Member)

Selected Hazards & Controls

Hazard / Control	Control Type	Responsible Party/Consequence	Proceed	Responsible Party
Establish communication before job begins.			**Accepted**	
LACK OF COMMUNICATION OR IMPROPER COMMUNICATION CAUSING JOB TO SLOW DOWN		Improper communication means causing an extended period of time for troubleshooting or misscomunication causing actions to occur out of sequence.	Y	
SEVERAL COMMUNICATION MEANS (PRIMARY AND BACKUP) WILL BE ESTABLISHED DURING JSEA MEETING	Supp			
PARTIES NOT KNOW WHAT COMMUNICATION DIVICES WILL BE UTILIZED		Not knowing what means of communications to be utilized could result in extended period for troubleshooting or miscommunication	Y	
MEANS OF COMMUNICATION WILL BE 900 MHZ CHN 06 AND PHONE.	Supp			
Review JSEA and Procedural document prior to any work			**Accepted**	
PARTIES NOT KNOW EXACTLY WHAT IS TO TAKE PLACE		Parties not knowing exactly what is to take place which could interuptions to troubleshooting, unintended shutdowns.	Y	
PROPER COMMUNICATION BETWEEN ALL PARTIES INVOLVED IN JOB	Supp			
Communicate intentions to Leadership Team			**Accepted**	
LT BEING UNAWARE OF WHAT IS TO OCCUR		LT being unaware of work that is to be done with the SPCU which could cause simops issues should any other work arrise.	Y	
PROPER COMMUNICATION TO LT REGARDING WORK TO BE CARRIED OUT.	Supp			
Place red tape around SPCU cabs and surrounding area			**Accepted**	

View JSEA

Selected Hazards & Controls

Hazard / Control	Control Type	Responsible Party/Consequence	Proceed	Responsible Party
DANGER TO PERSONNEL NOT INVOLVED IN JOB DUE TO LIVE ELECTRICS IN CABINET		Voltage is present in cabinet which could cause harm to people.	Y	
ONLY PEOPLE INVOLVED DIRECTLY IN SPCU CABINET WORK AND WHO HAVE REVIEWED AND SIGNED THE JSEA WILL BE ALLOWED ACROSS RED TAPE	Supp			
SECURE OR REMOVE ANY OBJECTS ON YOUR PERSON WHICH COULD BECOME ENTANGLED WHILE WORKING WITHIN THE CABINET.	Supp			
BE AWARE OF ALL ACTIONS WHICH ARE TAKING PLACE WITHIN THE CABINET	Supp			
CABINET DOORS TO BE SECURED WHILE NO WORK IS OCCURING IN CABINET	Supp			
SLIPS, TRIPS, FALLS DUE TO TEMPORARY CABLES, SEATS, AND TABLE WHICH ARE NOT USUALLY IN THE AREA.		Harm to people or damage to equipment due to dissorderly work area	Y	
ALL ITEMS INCLUDING TEMP CABLEING WILL BE KEPT IN AN ORGANIZED STATE TO PREVENT ANY TRIPPING.	Supp			
Work to commence in accordance with latest revised doc			**Accepted**	
NOT UTILIZING THE TROUBLESHOOTING DOCUMENT COULD RESULT IN ACTIONS OCCURING OUT OF SEQUENCE		Work not occuring in accordance with predevolped and agreed upon procedure which could cause subsea shutdowns that may cascade into plant shutdowns or unintended reduced rates.	Y	
WORK WILL BE CARRIED OUT IN ACCORDANCE WITH PREDEVELOPED PROCEDURE WHICH WAS AUTHORED BY SUBSEA ENGINEERING AND FMC.	Supp			
Closing and opening of electrical breakers			**Accepted**	
ELECTRICAL SHOCK		Electrical shock causing injury to personnel	Y	
PROPER TECHNIQUES TO BE USED WHILE TRANSITIONING BREAKER STATES	Supp			
BREAKERS TO BE OPENED/CLOSED ONLY BY QUALIFIED AND COMPETANT PERSONNEL	Supp			
OPENING OR CLOSING OF INCORRECT BREAKER		Opening of incorrect breaker could cause loss of control/view of affected wells.	Y	
NO FURTHER WORK WILL OCCUR UNTIL ALL COMMUNICATION IS BACK IN CONTROL OF THE SSCRO AND SSCRO IS STATES THAT WORK CAN COMMENCE AGAIN	Supp			
SHOULD THE WRONG BREAKER BE ALTERED, THE SSCRO WILL IMMEDIATLY BE NOTIFIED AND BREAKER STATE WILL BE REVERTED BACK TO THE PREVIOUS POSITION.	Supp			

View JSEA

Selected Hazards & Controls

Hazard / Control	Control Type	Responsible Party/Consequence	Proceed	Responsible Party
BREAKER STATES WILL ONLY BE ALTERED AS PER PROCEDURE AND DOUBLE CHECKED BEFORE ACTIONS TO OCCUR	Supp			
NOT RETURNING BREAKER POSITIONS TO CORRECT POSITION ONCE JOB IS COMPLETE		Loss of view/control to affected wells once communication paths are reverted back to the original path.	Y	
BREAKER STATES WILL BE PUT BACK IN THE CORRECT POSITION BEFORE THE JOB IS COMPLETE.	Supp			
Worksite to be policed after work is complete			**Accepted**	
SLIPS, TRIPS, FALLS		Slips, trips, falls	Y	
ALL TEMP CABLES, CHAIRS, AND TABLES WILL BE PUT BACK IN PROPER LOCATION	Supp			
ONCE JOB IS COMPLETE, THE WORKSITE WILL BE POLICED FOR ALL TRASH AND DEBRIS	Supp			
Findings of troubleshooting effort to be communicated			**Accepted**	
INTERESTED PARTIES BEING UNAWARE OF FINDINGS		Intersted parties not being aware of findings who could possibly know how the situation could be rectified.	Y	
FINDINGS TO BE COMMUNICATED TO ALL PARTIES INVOLVED	Supp			

Work Control Certificate: 00002036 Permit Electrical Authorized

NORM Check Required: uR/hr:_____ Time:_____

Gas Testing

Make	Model	Serial Number	Calibration Dates

Initial Gas Test

Date	Time	O_2	%LEL	Toxic	Authorized Gas Tester Name	Authorized Gas Tester Signature

Periodic Gas Test

Date	Time	O_2	%LEL	Toxic	Authorized Gas Tester Name	Authorized Gas Tester Signature

Work Control Certificate: 00002036 Permit Electrical Authorized

Date:_____

WCC/ICC Work Party Declaration

I understand the task described on this Work Control Certificate and have read and understand the controls and precautions that have to be in place to carry out the task. If the task involves isolations, I have witnessed the integrity of the isolations and will work under the Craft Crew Leader's Lock.

Name	Sign - In	Sign Out
.....	.....	.....
.....	.....	.....
.....	.....	.....
.....	.....	.....
.....	.....	.....
.....	.....	.....
.....	.....	.....
.....	.....	.....
.....	.....	.....
.....	.....	.....
.....	.....	.....
.....	.....	.....
.....	.....	.....
.....	.....	.....
.....	.....	.....
.....	.....	.....
.....	.....	.....
.....	.....	.....
.....	.....	.....
.....	.....	.....

From: Chan, Roy
Sent: Wednesday, July 30, 2008 12:43:15 PM
To: Dale, Geoff (JP Kenny)
CC: Roberson, Mark B; Oza, Nita
Subject: RE: JPK Electronics Control Engineer to provide assistance.

Geoff,

As we talked, Atlantis team now plans to focus on toubleshoot the Single Board Computer (SBC) which has failed a few months ago. If the SBC is the cause of the lost comms, we will need to have an EE from JPK to assist the root cause analysis.

I will have more update by the end of the day.

Regards,

Roy
Office: +1 281 366-1131
Mobile:

From: Dale, Geoff (JP Kenny)
Sent: Wednesday, July 30, 2008 10:54 AM
To: Chan, Roy
Cc: Roberson, Mark B
Subject: JPK Electronics Control Engineer to provide assistance.

Roy,

Steve Mansfield has someone with expertise in this area. He is involved in another project but can probably find some time to assist you.

Could you send me an e-mail summarizing the problems experienced and the planned work scope you would like assistance with.

Regards

Geoff Dale

Senior Project Engineer
BP GOM DWD Projects
(J P Kenny)

Tel: 281 366 7267

From: Malone, Garrick <Garrick.Malone@bp.com>
Sent: Monday, August 4, 2008 5:35 PM
To: Bristol, Erik <ERIK.BRISTOL@fmcti.com>
Cc: Whitehead, David K (Technip) <David.Whitehead@bp.com>; Ragan, Frank <Frank.Ragan@bp.com>; Young, Brian J <Brian.J.Young@bp.com>; Oza, Nita <Nita.Oza@bp.com>; Sun, Henry H (HONEYWELL IND. AUTO. and CNTR) <Henry.Sun2@honeywell.com>; Gutierrez, Daniel <daniel.gutierrez@bp.com>; Cotham, Mickey <Mickey.Cotham@fmcti.com>; Dean, Wayne (TECHNIP) <wdean@technip.com>
Subject: RE: Teleconference follow-up

Erik,

to close this out:

I want to confirm that the controls change we make on the PQ will be only on the FMC side, and the Honeywell system will remain the same. This was option #1 in our teleconference last week. I spoke with Wayne and Frank today to make sure we were in agreement.

Any questions let me know.

thanks,
Garrick

From: Malone, Garrick
Sent: Thursday, July 31, 2008 2:37 PM
To: Cotham, Mickey; 'Bristol, Erik'
Cc: Whitehead, David K (Technip); Ragan, Frank; Young, Brian J; Oza, Nita; Sun, Henry H (HONEYWELL IND. AUTO. and CNTR); Gutierrez, Daniel
Subject: Teleconference follow-up

Erik or Mickey

One follow-up from yesterday.

I spoke with Frank and he pushed back a bit on changing the Honeywell system (our option #2 in yesterday's conference call). To run this full circle I'd like to know:

- How easy/difficult would it be to revert the FMC system back to the current status after we make the change?
- Do you see any issues with using the Smart tool as the back-up to function HC9 instead of creating an additional tag in the Honeywell system?

This line of thinking would be to use Smart tool combined with an switching back to the original FMC configuration as a backup (if for example the AMV override tool fails) instead of making a change now to the Honeywell system.

thanks,
Garrick

Garrick Malone
Subsea Engineer
Atlantis - GoM Deepwater
Tel: +1 281-249-8791

From: Sustala, Dennis R <Dennis.Sustala@bp.com>
Sent: Monday, August 4, 2008 5:28 PM
To: Wilson, Amy <Amy.Wilson@mms.gov>
Cc: Lowe, Jon D <Jon.Lowe@bp.com>; Lowe, Jon D <Jon.Lowe@bp.com>; Taylor, Alastair <alastair.taylor@uk.bp.com>; Roades, Barth L <Barth.Roades@bp.com>; Schutte, Todd M <Todd.Schutte@bp.com>; Powell, Joe <Joe.Powell@bp.com>; Ross, Jim <Jim.Ross@bp.com>; Oza, Nita <Nita.Oza@bp.com>; Harrison, Rickey <Rickey.Harrison@bp.com>; Herrmann, Douglas T <Douglas.Herrmann@bp.com>; Gipson, Les <Les.Gipson@bp.com>; Gardner, Alton P <Alton.Gardner@bp.com>; Bish, David A <David.Bish@bp.com>; Todd, Simon P <Simon.Todd@bp.com>; Sustala, Dennis R <Dennis.Sustala@bp.com>
Subject: RE: GC743, DC111 and DC112 Well Communication Reestablished

Amy,

We did not have any further well communications issues since our last email on Friday, August 1, 2008.
Although we will continue to monitor the communications system, we believe that the cause of the failure was due to the control hardware that was replaced by the vendors.

Dennis Sustala
Atlantis Regulatory Compliance Coordinator
BP Exploration & Production Inc.
200 Westlake Park Blvd.
Houston, TX 77079
281-366-0898 phone

281-366-0900 fax

"CONFIDENTIALITY NOTICE: This message is intended only for the use of the individual or entity to which it is addressed and may contain information that is confidential. If you have received this message in error, please notify the sender immediately and delete the E-mail and any attachments from your computer and files. Thank you."

From: Wilson, Amy [mailto:Amy.Wilson@mms.gov]
Sent: Friday, August 01, 2008 11:51 AM
To: Sustala, Dennis R
Cc: Domangue, Bryan
Subject: RE: GC743, DC111 and DC112 Well Communication Reestablished

Dennis,

Approval granted. Please provide this office with an update on Monday, August 4, 2008.

Thanks,

Amy Wilson
Production Engineer
MMS Houma District

From: Sustala, Dennis R [mailto:Dennis.Sustala@bp.com]
Sent: Friday, August 01, 2008 10:11 AM

To: Domangue, Bryan; Wilson, Amy
Cc: Lowe, Jon D; Schutte, Todd M; Lowe, Jon D; Powell, Joe; Taylor, Alastair; Ross, Jim; Oza, Nita; Harrison, Rickey; Herrmann, Douglas T; Gipson, Les; Gardner, Alton P; Bish, David A; Roades, Barth L; Todd, Simon P; Sustala, Dennis R
Subject: GC743, DC111 and DC112 Well Communication Reestablished

The purpose of this email is to inform you that we have re-establish communication with GC743, Wells DC111 and DC112, OCSG 15607. All monitoring functions, including annulus monitoring, and all shut-down functions are operating as expected. The systems were restored through replacement of vendor control hardware.

Although the systems are currently operating as designed, BP requests that the MMS continue the current approval to operate without continuous monitoring to allow vendor and BP specialists opportunity to better understand the failure mechanisms. During this troubleshooting period short shutdown periods could re-occur.

BP proposes to report the results of these troubleshooting efforts on Monday, August 4, 2008.

Dennis Sustala
Atlantis Regulatory Compliance Coordinator
BP Exploration & Production Inc.
200 Westlake Park Blvd.
Houston, TX 77079
281-366-0898 phone

281-366-0900 fax

"CONFIDENTIALITY NOTICE: This message is intended only for the use of the individual or entity to which it is addressed and may contain information that is confidential. If you have received this message in error, please notify the sender immediately and delete the E-mail and any attachments from your computer and files. Thank you."

From: Domangue, Bryan [mailto:Bryan.Domangue@mms.gov]
Sent: Tuesday, July 29, 2008 2:05 PM
To: Schutte, Todd M
Subject: RE: Loss of DC-111 and DC-112 Well Communication

Approval granted as requested. BP shall notify the MMS Houma District immediately when communication to these subsea wells has been re-established.

Thanks,

Bryan Domangue
MMS Houma District

From: Schutte, Todd M [mailto:Todd.Schutte@bp.com]
Sent: Tuesday, July 29, 2008 1:49 PM
To: Domangue, Bryan
Cc: Sustala, Dennis R; Lowe, Jon D; Powell, Joe; Taylor, Alastair; Ross, Jim; Oza, Nita; Harrison, Rickey; Herrmann, Douglas T; Gipson, Les; Gardner, Alton P; Bish, David A; Roades, Barth L; Todd, Simon P
Subject: Loss of DC-111 and DC-112 Well Communication

Bryan,

At 0400 hours this morning (July 29), subsea communications were lost with Atlantis Project wells DC-111 and DC-112 in Green Canyon 743, OCSG 15607. In the absence of electronic communication with the wellhead, topsides operating data (temperature, pressure, and flow) is being used to continuously monitor well production. Chemical injection pressure and flowrate are also continuously monitored.

There are no environmental or safety concerns with continuing to operate these wells at this time, and if necessary, both wells can be safely shut-in using release of hydraulic pressure. The ESD logic remains functional and will shut-in these wells in case of emergency.

Investigation into the cause of this communication loss is underway, and vendor and technical support is engaged. In the meantime, we request approval a waiver from the MMS to continue operating these wells without continuous monitoring of annulus pressures for the next 7 days. An update to the MMS will be provided at the end of this time period, or when there are significant findings.

Todd Schutte
Operations Engineering Team Lead - Atlantis
200 Westlake Park Boulevard, #1735B
Houston, Texas 77079
Office Phone: +1-281-366-3629
Mobile Phone:
Fax: +1-281-366-0799
Email: todd.schutte@bp.com

Confidentiality Notice: This electronic transmission and any documents sent with it constitute confidential, inside or non-public information. If you are not the intended recipient or have received this communication in error, please resend this communication to the sender and delete it from your computer system. Any use or disclosure of the contents of this communication by anyone other than an intended recipient is strictly prohibited and may be unlawful. Thank you.

From: Chan, Roy <Roy.Chan@bp.com>
Sent: Tuesday, August 5, 2008 2:16 PM
To: Oza, Nita <Nita.Oza@bp.com>; Fleming, Ray H <Ray.Fleming@bp.com>; Berger, Ron K (Manatee) <ron.berger@bp.com>; Cotton, Steven L <Steven.Cotton@bp.com>
Subject: FW: Atlantis - update
Attach: Atlantis - FMC SBC card failure history.pdf

Please see the report from Scott.

If there is anything needs to be follow up before FMC sends the diagnose flow chart, please let me know.

Regards,

Roy
Office: +1 281 366-1131

-----Original Message-----
From: Dale, Geoff (JP Kenny)
Sent: Tuesday, August 05, 2008 11:26 AM
To: Chan, Roy
Cc: Roberson, Mark B
Subject: FW: Atlantis - update

Roy/Mark,

Here is a report from Scott following yesterdays Atlantis meeting.

Regards

Geoff Dale

BP GoM DWD Projects (JP Kenny)
Tel:281 366 7267

e-mail: geoff.dale@bp.com

-----Original Message-----
From: Leonard, Scott [mailto:Scott.Leonard@jpkhouston.com]
Sent: Tuesday, August 05, 2008 11:01 AM
To: Dale, Geoffrey
Cc: Mansfield, Steve
Subject: Atlantis - update

Geoff,

To keep you informed, I attended a meeting at FMC yesterday to discuss the comms problems.

Attendees included:
Nita Oza

Ron Berger
Ray Fleming
Roy Chan
Steven Cotton
A BP Challenger working with Nita
Christopher Curran did not make it.
Several FMC support personnel including Jamie Hartley, Erik Bristol, etc I'm waiting for the circulation list to be forwarded.

The priority last week was to resume comms, demonstrate we had a fix, confirm that we had an alarm for loss-of-comms to ensure that the system was not running blind, get approval from the MMS and resume production.

This was done.

This week the focus was on problem solving. Several issues were identified.

1/ There is a technical problem but it is not clear if this is design or manufacturing (i.e. a bad batch). It appears that the SBC card "froze". A decision tree will be generated by FMC this week and presented to BP. Further meetings will be held weekly to evaluate the process and try to progress to a solution. This has been seen as stalling on boot-up but apparently froze during operation so it's not clear if this is same fault or more than one fault. The system testability/diagnostics are limited and event logs have not captured this.

2/ The system was running blind for some time and no-one noticed until the flat-lining DHPT data was spotted during an daily check. No alarm was raised by system at the Honeywell consoles. I would have hoped that the FMC SmartTools package would have captured this event and also that the H'Well system would detect a failure. The integrated architecture for this system may complicate the system testability and also the responsibilities for effecting solutions.

3/ The first card failure was seen in February 2008 and was returned to FMC for testing in an onshore test rig. No faults found. However the rig is not identical to offshore so it may not replicate the fault. The profile of this fault was only raised when additional faults appeared in June 2008 (now totaling 6).

4/ It is not clear what action was taken by BP Ops after the first failure. Lack of alarm is a serious issue and I think that this has now been recognized and will be followed-up within BP. This is a BP Operational issue. The punchlist of bugs is still being cleared from start-up so it may not have received the priority that might have been expected.

5/ There are implications for Thunderhorse but no problems have been seen or recognized there. There are other known problems across the systems and some faults may mask other faults. Na Kika has slightly different systems so may not be faced with the same issues. The cards are running with different revisions of firmware (I asked for these to be recorded last week however it appears that this was already known) and this will be included in the diagnostics to be developed in the decision tree. There may be different Honeywell software and logic between the T'Horse and Atlantis systems, particularly on how choke commands are handled and this will be followed-up.

6/ Last week we discussed possible causes including temperature, vibration, dodgy connections on the VME backplane, electrical noise, particular slots in the racks, power supplies, etc. Last week I suggested connecting a laptop (SPCTU) to a spare channel and logging the comms to exercise the system. This was discussed again yesterday and may be done - depends on the plan forward. (Intermittent faults are the worst kind since you have to replicate the fault to fix it.)

7/ The onshore test rig at FMC may be developed to provide a better simulation of the offshore system and include a ProSoft card to interface with a topsides Honeywell DCS system. This might capture the intermittent fault.

8/ FMC Kongsberg in Norway will get more involved. They could focus on the firmware that they burn into the cards to replace the original Motorola firmware.

I'm not sure about Roles and Responsibilities & reporting hierarchies but I'm sure Nita has pressure from senior management to get

this resolved urgently. Ron Berger with support from Steven Cotton appear to have a good understanding of the issues. Ray Fleming (controls TA) is now involved and will coordinate some of the technical response across BP, especially with T'Horse. I have offered continued technical support to Roy Chan and Ron Berger as required.

I'll call you.

Scott Leonard
Sr. Subsea Controls Engineer
J P Kenny, Inc.
15115 Park Row,
3rd Floor,
Houston, Texas 77084-4947
Direct: +1 (281) 675-1571
Fax: +1 (281) 646-9827

scott.leonard@jpkhouston.com
www.jpkennyhouston.com

-----Original Message-----
From: Chan, Roy [mailto:Roy.Chan@bp.com]
Sent: Monday, August 04, 2008 12:21 PM
To: Leonard, Scott
Cc: Oza, Nita
Subject: FW: Atlantis DWG request

Scott,

Attached are some overall system dwgs for your info.

As we spoke, we will have a meeting with FMC at 3:00pm today at their new aftermarket building.

Regards,

Roy
Office: +1 281 366-1131

Date	TPU Location	Event	
2/29/2008	C1 1A	Problems with 123A, 124A, 143A	
3/5/2008	C1 1A	Swapped board with platform's spare. Board brought back to FMC.	#1
6/20/2008	C2 1B	Board stopped communicating	
6/27/2008	C2 1B	Swapped board with C3 1A. Brought board back to FMC.	#2
6/30/2008	C2 1B	Board worked at FMC	
7/27/2008	C2 1B (original C3 1A)	Board stopped communicating	#3
7/29/2008	C2 1A	Board stopped communicating	#4
7/30/2008	C2 1A	Worked after board was reseated	
7/30/2008	C2 1B (original C3 1A)	Swapped with new board. Will be brought back to FMC.	
7/30/2008	C1 1A (original)	Board worked at FMC	
7/30/2008	C3 1B	Noticed board not communicating. Will be brought back to FMC.	#5
7/30/2008	C3 2B	Noticed board not communicating. Will be brought back to FMC.	#6

From: Cotton, Steven L
Sent: Tuesday, August 05, 2008 3:39 PM
To: DeJohn, Kenneth P
Cc: Ragan, Frank
Subject: FW: Atlantis - update
Attachments: Atlantis - FMC SBC card failure history.pdf

Ken,

We held a meeting with FMC yesterday to discuss the path forward in resolving the subsea communication issues. Six of the single board computers have failed and are being evaluated at FMC's facility here in Houston. Scott Leonard captured most of the notes from the meeting in his e-mail below and a failure history sheet is also attached. I would like to continue to assist with the troubleshooting since this will require topside support due to the tight integration of the systems. The focus for me would be the following:

1. Setup a test system that includes the topsides interface components (Prosoft modules and controller, SCU controller and an Experion server\client).

2. Use this test system to fuly load the system to test for failures at FMC. It may be difficult to identify the failures since this is an intermittent problem and could be related to hardware or environmental issues offshore.

3. Verify the comm failure alarms. It was stated at the meeting that we did not receive any comm failure alarms. The operators only noticed the lost comms when checking the DHPT gauges. This may not be totally true since we do have comms failure alarms when the SCU loses comms to FMC's SBC. Frank and I have already discussed initiating an RFA to resolve a similar "dual comms" failure issue. We can surely do a better job to flag the lost comms on Experion is it was an issue.

4. There are known issues with the currently installed firmware on these boards so we need to evaluate the need to upgrade the firware then test the upgraded firware on out "test system" at FMC to ensure function properly.

5. The firware issue concerns certain choke movement and stops. I need to pull alarm and event logs to see if the chokes were being moved before the lost comms event. I also need to look for lost comms alarms to document what we were seeing. This may be helpful to determine the root cause of the failures.

I know we have a few priorities so I wanted to talk with you before I committed to too much effort on this. I think I can help with this issue and still have time to work our RFAs and MOCs.

Steve

-----Original Message-----
From: Chan, Roy
Sent: Tuesday, August 05, 2008 1:16 PM
To: Oza, Nita; Fleming, Ray H; Berger, Ron K (Manatee); Cotton, Steven L
Subject: FW: Atlantis - update

Please see the report from Scott.

If there is anything needs to be follow up before FMC sends the diagnose flow chart, please let me know.

Regards,

Roy
Office: +1 281 366-1131
Mobile:

-----Original Message-----
From: Dale, Geoff (JP Kenny)
Sent: Tuesday, August 05, 2008 11:26 AM
To: Chan, Roy
Cc: Roberson, Mark B
Subject: FW: Atlantis - update

Roy/Mark,

Here is a report from Scott following yesterdays Atlantis meeting.

Regards

Geoff Dale

BP GoM DWD Projects (JP Kenny)
Tel:281 366 7267
Cell:
e-mail: geoff.dale@bp.com

-----Original Message-----
From: Leonard, Scott [mailto:Scott.Leonard@jpkhouston.com]
Sent: Tuesday, August 05, 2008 11:01 AM
To: Dale, Geoffrey
Cc: Mansfield, Steve
Subject: Atlantis - update

Geoff,

To keep you informed, I attended a meeting at FMC yesterday to discuss the comms problems.

Attendees included:
Nita Oza
Ron Berger
Ray Fleming
Roy Chan
Steven Cotton
A BP Challenger working with Nita
Christopher Curran did not make it.
Several FMC support personnel including Jamie Hartley, Erik Bristol, etc I'm waiting for the circulation list to be forwarded.

The priority last week was to resume comms, demonstrate we had a fix, confirm that we had an alarm for loss-of-comms to ensure that the system was not running blind, get approval from the MMS and resume production.
This was done.

This week the focus was on problem solving. Several issues were identified.

1/ There is a technical problem but it is not clear if this is design or manufacturing (i.e. a bad batch). It appears that the SBC card "froze". A decision tree will be generated by FMC this week and presented to BP. Further meetings will be held weekly to evaluate the process and try to progress to a solution. This has been seen as stalling on boot-up but apparently froze during operation so it's not clear if this is same fault or more than one fault. The system testability/diagnostics are limited and event logs have not captured this.

2/ The system was running blind for some time and no-one noticed until the flat-lining DHPT data was spotted during an daily check. No alarm was raised by system at the Honeywell consoles. I would have hoped that the FMC SmartTools package would have captured this event and also that the H'Well system would detect a failure. The integrated architecture for this system may complicate the system testability and also the responsibilities for effecting solutions.

3/ The first card failure was seen in February 2008 and was returned to FMC for testing in an onshore test rig. No faults found. However the rig is not identical to offshore so it may not replicate the fault. The profile of this fault was only raised when additional faults appeared in June 2008 (now totaling 6).

4/ It is not clear what action was taken by BP Ops after the first failure. Lack of alarm is a serious issue and I think that this has now been recognized and will be followed-up within BP. This is a BP Operational issue. The punchlist of bugs is still being cleared from start-up so it may not have received the priority that might have been expected.

5/ There are implications for Thunderhorse but no problems have been seen or recognized there. There are other known problems across the systems and some faults may mask other faults. Na Kika has slightly different systems so may not be faced with the same issues. The cards are running with different revisions of firmware (I asked for these to be recorded last week however it appears that this was already known) and this will be included in the diagnostics to be developed in the decision tree. There may be different Honeywell software and logic between the T'Horse and Atlantis systems, particularly on how choke commands are handled and this will be followed-up.

6/ Last week we discussed possible causes including temperature, vibration, dodgy connections on the VME backplane, electrical noise, particular slots in the racks, power supplies, etc. Last week I suggested connecting a laptop (SPCTU) to a spare channel and logging the comms to exercise the system. This was discussed again yesterday and may be done - depends on the plan forward. (Intermittent faults are the worst kind since you have to replicate the fault to fix it.)

7/ The onshore test rig at FMC may be developed to provide a better simulation of the offshore system and include a ProSoft card to interface with a topsides Honeywell DCS system. This might capture the intermittent fault.

8/ FMC Kongsberg in Norway will get more involved. They could focus on the firmware that they burn into the cards to replace the original Motorola firmware.

I'm not sure about Roles and Responsibilities & reporting hierarchies but I'm sure Nita has pressure from senior management to get this resolved urgently. Ron Berger with

support from Steven Cotton appear to have a good understanding of the issues. Ray Fleming (controls TA) is now involved and will coordinate some of the technical response across BP, especially with T'Horse. I have offered continued technical support to Roy Chan and Ron Berger as required.

I'll call you.

Scott Leonard
Sr. Subsea Controls Engineer
J P Kenny, Inc.
15115 Park Row,
3rd Floor,
Houston, Texas 77084-4947
Direct: +1 (281) 675-1571
Fax: +1 (281) 646-9827

scott.leonard@jpkhouston.com
www.jpkennyhouston.com

-----Original Message-----
From: Chan, Roy [mailto:Roy.Chan@bp.com]
Sent: Monday, August 04, 2008 12:21 PM
To: Leonard, Scott
Cc: Oza, Nita
Subject: FW: Atlantis DWG request

Scott,

Attached are some overall system dwgs for your info.

As we spoke, we will have a meeting with FMC at 3:00pm today at their new aftermarket building.

Regards,

Roy
Office: +1 281 366-1131
Mobile:

09-11-~

Date	TPU Location	Event	
2/29/2008	C1 1A	Problems with 123A, 124A, 143A	
3/5/2008	C1 1A	Swapped board with platform's spare. Board brought back to FMC.	#1
6/20/2008	C2 1B	Board stopped communicating	
6/27/2008	C2 1B	Swapped board with C3 1A. Brought board back to FMC.	#2
6/30/2008	C2 1B	Board worked at FMC	
7/27/2008	C2 1B (original C3 1A)	Board stopped communicating	#3
7/29/2008	C2 1A	Board stopped communicating	#4
7/30/2008	C2 1A	Worked after board was reseated	
7/30/2008	C2 1B (original C3 1A)	Swapped with new board. Will be brought back to FMC.	
7/30/2008	C1 1A (original)	Board worked at FMC	
7/30/2008	C3 1B	Noticed board not communicating. Will be brought back to FMC.	#5
7/30/2008	C3 2B	Noticed board not communicating. Will be brought back to FMC.	#6

From: Berger, Ron K (Manatee)
Sent: Wednesday, August 06, 2008 5:27:01 PM
To: Cotton, Steven L; Herrmann, Douglas T; Gipson, Les; Ross, Jim; Young, Brian J
CC: Ragan, Frank; Orr, Scotty; Powell, Kevin J; Oza, Nita; Angel, Keith F; Carlson, Brian H; Parikh, Manasi J; Huebel, Ross
Subject: ALERT!!! - SPCU SBC Issue

Steve / Les,

We found out this week from FMC that the all the Single Board Computers (SBC) in the SPCU have a known issue with the current firmware installed. The issue is that whenever the subsea choke is commanded to move to a position, and then aborted by using the "STOP" command, then the SBC may reset (or disappear out of Smart-tool as FMC says).

Coupled with the issue with the board failing to boot up, we have our lost comms situation. For now, we are asking to avoid using the "Stop" feature on the subsea choke faceplate. FMC is telling us that you can stop the choke by simply issuing another command to a position that it has already achieved. For example, if you issue a command from 20% to 40% and decide to stop at 35%, simply issue another choke command to 35%. Once we are sure the latter works, I would propose we temporarily remove the "Stop" buttom from the choke faceplate.

There is a firmware update that corrects the choke problem above. However, this is more than likely several weeks away from being available to us. Before we can update the boards, we need to complete some testing to ensure the new firmware is compatible with the system we have.

Ron

PS If you have seen any occurrences where this has actually occurred, please pass along the details as it will help us with the overall root cause analysis.

From: Cotton, Steven L
Sent: Wednesday, August 06, 2008 3:55:59 PM
To: Oza, Nita
CC: Berger, Ron K (Manatee); DeJohn, Kenneth P; Ragan, Frank
Subject: Subsea Test System

Attachments: 139693 FCO #22 Request - Rev A.xls

Nita,

I spoke to Frank regarding a subsea test setup and he said they had looked at this during the project development phase but it was too expensive. The attached $47,000 quote is just for the hardware but it includes some redundant components.

A better way to approach this would be to setup a temporary system using some of our available spare components. I have most of the equipment here in Houston but we would need to purchase two Prosoft modules at a cost of $2600 each. We may need a few other minor things and some assistance from Honeywell so I wanted to see how we should proceed. The system would be temporary but we could re-assemble anytime we needed it for testing.

This system would be used for testing the existing boards, modifying the comms failure alarms and testing the new firmware if we decide to upgrade.

Let me know how to handle the cost and approval,

139693 FCO #22 Request - Rev A.xls (34 kB)

Steve Cotton
Control Systems Engineer
BP GOM Deepwater Production
281 366-0975 Office

BPEP_ABB_03627311.xls "139693 - FC22" Sheet

Honeywell

Field Change Order

Project Operations
1250 W. Sam Houston Parkway S.
Houston, Texas 77042
Fax: (832) 252-3138

Customer: bp	Honeywell Project Number: 139693		Requested By: Atlantis Operations
Project Site: bp Atlantis Offshore	Project Name: Atlantis	Project Manager: Diane Maskey	Prepared By: Steven Rogers
Purchase Order Number:	Change Order No.: 22	Revision No.: 0	Date Prepared: Nov 14th 2007

Description of Change Requested: Request for Subsea Development System

NOTE:

Item 22.01	DELL POWEREDGE ENG STATION / SERVER
Item 22.02	PROSOFT FMC COMMUNICATIONS MODULE
Item 22.03	A-B, 7 SLOT RACK
Item 22.04	A-B, RACK POWER SUPPLY
Item 22.05	A-B, ETHERNET BRIDGE
Item 22.06	A-B, CONTROLOGIX CONTROLLER
Item 22.07	A-B, CONTROL BRIDGE MODULE
Item 22.08	A-B, CONTROLNET TAPS
Item 22.09	A-B, FILLER PLATES
Item 22.10	RSLOGIX 5000 PROFESSIONAL / NETWORK EDITION V13.03.00
Item 22.11	MISCELLANEOUS CABLES, 1 LOT
Item 22.12	CISCO, 12 PORT SWITCH, CATALYST

Please see attached for itemized changes.

Change In Scope Of Work		Price
Deletions		$ -
Additions		$ 47,020.09
Total Cost For This Change Order		**$ 47,020.09**

Terms And Conditions

X	Please approved this Change Order ten (10) working days from receipt
	Delivery Time: As per schedule/timeframe about indicated
X	Terms and conditions of original purchase/work order apply to this change order

Customer Authorization (please make selection, sign, date and return Change Order to Honeywell)

	We authorize Honeywell to proceed with the work described above and accept the price and terms
	This Change Order is rejected. No further action is to be taken, by Honeywell, on this Change Order

Authorizing Signature: _____ Authorizing Name: _____

Date: _____

C/O No.	Change Requests Description of/or Reason for Change	Part number	Vendor	New Qty	Unit Sell	Total Sell
20.01	DELL POWEREDGE ENG STATION / SERVER	SC1430	DELL	2	$ 7,763.78	$ 15,527.56
20.02	PROSOFT FMC COMMUNICATIONS MODULE	MVI56-SMGC	PROSOFT	1	$ 2,585.46	$ 2,585.46
20.03	A-B, 7 SLOT RACK	1756-A7	A-B	2	$ 287.83	$ 575.65
20.04	A-B, RACK POWER SUPPLY	1756-PB75	A-B	2	$ 655.11	$ 1,310.21
20.05	A-B, ETHERNET BRIDGE	1756-ENBT	A-B	1	$ 1,146.11	$ 1,146.11
20.06	A-B, CONTROLOGIX CONTROLLER	1756-L55M16	A-B	2	$ 7,314.27	$ 14,628.55
20.07	A-B, CONTROL BRIDGE MODULE	1756-CNBR	A-B	2	$ 2,200.00	$ 4,400.00
20.08	A-B, CONTROLNET TAPS	-	A-B	4	$ 77.00	$ 308.00
20.09	A-B, FILLER PLATES	-	A-B	7	$ 22.00	$ 154.00
20.10	RSLOGIX 5000 PROFESSIONAL / NETWORK EDITION V13.03.00	9324RLD700NXENE	ROCKWELL	1	$ 4,704.55	$ 4,704.55
20.11	MISCELLANEOUS CABLES, 1 LOT	VARIOUS	-	1	$ 240.00	$ 240.00
20.12	CISCO, 12 PORT SWITCH, CATALYST		CISCO	1	$ 1,440.00	$ 1,440.00

Case 4:09-cv-01193 Document 343-11 Filed in TXSD on 04/04/12 Page 56 of 67

From: Hartley, Jamie <Jamie.Hartley@fmcti.com>
Sent: Wednesday, August 6, 2008 11:24 AM
To: Oza, Nita <ozan@bp.com>; Leal, JJ (FMC) <JJ.Leal@fmcti.com>; scott.leonard@jpkhouston.com; Cotton, Steven L <steven.cotton@bp.com>; Berger, Ron K (Manatee) <ron.berger@bp.com>; Furneaux, Dale (FMC) <Dale.Furneaux@fmcti.com>; ERIK.BRISTOL@fmcti.com
Cc: LINH.THAI@fmcti.com; Goggans, Tim <TIM.GOGGANS@fmcti.com>; ROBERT.HARDEE@fmcti.com; McIntosh, Brian <Brian.McIntosh@fmcti.com>; Shelagh.Osborn@fmcti.com
Subject: BP Atlantis Single Board Computer Issues Meeting Minutes - 8/04/08

I'm sending out this e-mail to everyone to capture the meeting minutes and action items from our meeting Monday afternoon. I do not have Ray Fleming, or Roy Chan's e-mail address, Nita could you please forward this message on to them for me, thanks.

Attendees:

Scott Leonard
Ray Fleming
Roy Chan
Steve Cotton
Ron Berger
Jamie Hartley
Nita Oza
JJ Leal
Dale Furneaux
Erik Bristol
Brian McIntosh
Bubba Hardee

Discovery Ex. No. 221
Cause No.
4:09-cv-01193
Abbott v. BP

The following event log was presented to illustrate to issues to date:

Date	TPU Location	Event
2/29/2008	C1 1A	Problems with 123A, 124A, 143A
3/5/2008	C1 1A	Swapped board with platform's spare. Board brought back to FMC.
6/20/2008	C2 1B	Board stopped communicating
6/27/2008	C2 1B	Swapped board with C3 1A. Brought board back to FMC.
6/30/2008	C2 1B	Board worked at FMC
7/27/2008	C2 1B (original C3 1A)	Board stopped communicating
7/29/2008	C2 1A	Board stopped communicating
7/30/2008	C2 1A	Worked after board was reseated
7/30/2008	C2 1B (original C3 1A)	Swapped with new board. Will be brought back to FMC.
7/30/2008	C1 1A (original)	Board worked at FMC
7/30/2008	C3 1B	Noticed board not communicating. Will be brought back to FMC.
7/30/2008	C3 2B	Noticed board not communicating. Will be brought back to FMC.

Topics of discussion:

- Boards are not currently utilizing the latest software, consideration should be given to upgrading at some point. Software revision was not deemed relevant to issue at hand and it would not be wise to implement without first performing tests to understand what the implications are.
- Issuing a choke command followed by a choke stop command is known problem and will cause the boards to drop out. This problem is well documented and recommend that Operations team investigate the current use of this command.
- Currently there is only one spare board available on PQ that could be utilized in the event another board exhibits similar behavior.
- The BPTH boards are interchangeable with the Atlantis boards and could be utilized if necessary.
- Normal lead time for receipt of these boards from Norway is 75 days, this duration includes accounts for ordering boards and having firmware loaded, and the shipment to Houston. Boards are manufactured by Motorola and loaded with FMC firmware in Norway prior to shipment to Houston.
- Two boards returned from offshore have been successfully been powered up at FMC, but it has not been possible function them in manner consistent with actual field conditions. Non FMC supplied topsides control equipment may be available from BP for use in developing a test rig for evaluating the performance of the boards in question.
- Four boards recently replaced offshore are currently in transit from PQ to FMC for evaluation.
- FMC Norway has been advised of the performance issues experienced to date. They are providing personnel to aid in the troubleshooting and root cause analysis work. Norway is currently investigating if their have been any past performance issues of similar nature related to this

equipment.

- FMC Houston Controls Product Group management and CS management are aware of the issue and are actively ensuring proper resources as well as priority is established for root cause analysis given the potential impact to both Atlantis and Thunder Horse operations.

Action Items:

- What is the status of the boards that are currently on order with FMC Norway – Erik Bristol, 8/06 update: Expedited delivery is last week of September.
- Develop a fault/logic tree for the investigation into the root cause of the issue by 8/08 – Dale Furneaux
- Investigate the equipment availability and setup of a test rig for evaluating the boards and for future use as personnel training device – Steve Cotton
- What is the current topside system configuration, i.e. map which wells are being supported by which cabinet and slot – Nita Oza
- FMC to provide weekly e-mail updates and/or establish weekly meeting to discuss root cause analysis (RCA) – Brian McIntosh, 8/06 update: Next meeting at FMC on 8/12 at 3:30pm, thanks Ron.
- FMC to evaluate and power up the four boards recently replaced offshore upon receipt – Dale Furneaux, 8/06 update: Have received the boards, testing to begin today

Regards,

Jamie Hartley
Customer Support Engineering Manager
E: jamie.hartley@fmcti.com | P: 281 591 8009 | M: 281 782 6873

FMC Technologies, Inc
11220 TC Jester | Houston, TX | 77067 USA
P: 281 591 4400
www.fmctechnologies.com

From: WDean@technip.com
Sent: Wednesday, August 6, 2008 11:22 AM
To: mickey.cotham@fmcti.com
Cc: Oza, Nita <nita.oza@bp.com>; Whitehead, David K (Technip) <whitdz@bp.com>; Vass, Malcolm (Technip) <mcvass@technip.com>; erik.bristol@fmcti.com; jj.leal@fmcti.co; aneet.nehra@fmcti.com; bruce.maughs@fmcti.com
Subject: PQ SBC Systemic Failures
Attach: SBC Failures.doc

Mickey,

Please note attached document relating to subject item. This is serious and should be addressed to Norway.

Wayne

5/06/08
PQ SBC Failures

- Aneet Nehra and Brian Young went to the PQ on or about July 30, 2008. This trip was necessitated by the loss of communications with wells DC11 and DC112 on both A and B SEM.
- Aneet was unsuccessful in restarting the SBCs that communicate with the DC11 and DC112 modems, SPCU 2 SBC 1A and SBC 1B. He therefore removed these two SBCs. He also removed 2 additional SBCs supplying DC113 and DC114 i.e. SPCU 2 SBC 2A and SBC 2B
- I talked to Aneet and to JJ Leal. Aneet was to give the SBCs to JJ Tuesday to begin operation and testing of the 4-boards.
- In March this also happened on wells DC121 and DC122. Aneet was sure that the boards were powered on and restarted with no problem.
- We have received no technical reports from FMC on the March testing.

Conclusions:

1. FMC should provide Technip and BP with all test data on the March incident. We would also request copies of all Norway correspondence subject to this March SBC removal and test.
2. FMC shall provide Technip and BP with all test data and correspondence with Norway concerning this July 2008 SBC failure.
3. Norway should provide a technical report on this issue as this TPU configuration is FMC's bread and butter in FMC Production Control.

It should be pointed out that the March incident was suspected to be associated with Bender alarms (shutdowns ?) and associated SPCU common alarms. Neither of these problems have been addressed, so both do still exist. Aneet was to investigate the GE PLC interface to this Bender units communication with the SBC and/or the ProSoft MVI boards. This has also not been done.

This must be addressed immediately.

Wayne Dean PE

From: RKnott@technip.com
Sent: Wednesday, August 6, 2008 11:14 AM
To: Fleming, Ray H <Ray.Fleming@bp.com>; Curran, Christopher J <Christopher.Curran@bp.com>
Cc: SRactliffe@technip.com; Rotolo, Anthony <anthony.rotolo@bp.com>; Hadaegh, Farid <Farid.Hadaegh@bp.com>; Accardo, Angelo C <Angelo.Accardo@bp.com>; Fontenot, Martin L <fontenml@bp.com>; Berger, Ron K (Manatee) <ron.berger@bp.com>; Oza, Nita <Nita.Oza@bp.com>
Subject: RE: Subsea Communication Loss Detection on Thunder Horse and Atlantis

Ray,

That will not be a problem. I need to get the MOC entered into the system, probably today. Once it is approved, I can give Honeywell the green light. This is all dependent on how quick we can get the MOC through. I will have to consult with Honeywell on how long it will take for a change to take place. Thanks.

Ryan J. Knott

Subsea Controls Specialist, Subsea Engineering Department

Office 281-249-1663

From: Fleming, Ray H [mailto:Ray.Fleming@bp.com]
Sent: Wednesday, August 06, 2008 10:12 AM
To: Ryan Knott; Curran, Christopher J
Cc: Stefan Ractliffe; Rotolo, Anthony; Hadaegh, Farid; Accardo, Angelo C; Fontenot, Martin L; Berger, Ron K (Manatee); Oza, Nita
Subject: RE: Subsea Communication Loss Detection on Thunder Horse and Atlantis

Ryan,

When will the details be finalised? I see this as a potential common solution for both TH and AT. Whenever the details are finalised or close to being finalised, can we get together with Atlantis to review the solution.

Regards

Ray

From: RKnott@technip.com [mailto:RKnott@technip.com]
Sent: Wednesday, August 06, 2008 9:45 AM
To: Curran, Christopher J
Cc: SRactliffe@technip.com; Rotolo, Anthony; Hadaegh, Farid; Accardo, Angelo C; Fontenot, Martin L; Fleming, Ray H
Subject: RE: Subsea Communication Loss Detection on Thunder Horse and Atlantis

All,

There has been thought to this issue just recently surrounding the new requirements under the DWOP plan. I am having an MOC developed to actually take into account the loss of signal (not just communications) between the SPCU TEM's

and the Honeywell controllers. As of now, the loss of this signal is only shown in status form on the HMI. This page is not well advertised and is mostly used by the Honeywell Engineers during troubleshooting or during checking the system.

What needs to be done and will be covered in the MOC is that we need the logic to be coded to enable a loss of communications (either on the A or B side of the cabinet) when we loose this link. This is on my long list of items to have put into an MOC this week. Honeywell and I have had many conversations regarding this offshore and they fully understand what needs to be done as soon as we get the MOC passed around and approved by the necessary parties.

If anyone has any questions, please feel free to contact me. Thanks.

Ryan J. Knott

Subsea Controls Specialist, Subsea Engineering Department

Office 281-249-1663

From: Accardo, Angelo C [mailto:Angelo.Accardo@bp.com]
Sent: Wednesday, August 06, 2008 9:31 AM
To: Curran, Christopher J
Cc: Ryan Knott; Stefan Ractliffe
Subject: RE: Subsea Communication Loss Detection on Thunder Horse and Atlantis

That I am aware of, topsides is not making any changes for this. Topsides is still simply taking the inputs from the Subsea MCS and executing a shutdown sequence on the subsea HPU hydraulic distribution systems on a dual Subsea comms loss, as required.

Angelo Accardo
bp Facilities Engineer
Instrumentation & Electrical Systems
Thunder Horse Facility
bp Westlake Office (1797B WL4): 281-366-1379
Mustang Opus Office (T4049S): 713-215-8166

From: Curran, Christopher J
Sent: Wednesday, August 06, 2008 9:11 AM
To: Knott, Ryan (TECHNIP); SRactliffe@technip.com; Accardo, Angelo C
Subject: FW: Subsea Communication Loss Detection on Thunder Horse and Atlantis

Gents,

Please see note below from Ray Fleming on the problem found at Atlantis. In his note, he mentions changes we are looking at on TH that I am not aware of, can someone please brief me or let me know who I need to talk with?

Regards
Christopher Curran
Subsea Controls Engineer
BP Exploration and Production

DWP Thunder Horse
11700 Katy Freeway, Suite 150, Room 7-22
Houston, Tx 77079
USA
Office: +1 281 249 7563
Mobile:
Email: Christopher.Curran@bp.com

From: Fleming, Ray H

Sent: Wednesday, August 06, 2008 9:04 AM

To: Curran, Christopher J

Cc: Oza, Nita; Berger, Ron K (Manatee); Cotton, Steven L; Accardo, Angelo C; Kelly, William G; Courville, Jeffery J; Turner, Dave; Peloubet, Robert R; Whitehead, David K (Technip); SRactliffe@technip.com

Subject: Subsea Communication Loss Detection on Thunder Horse and Atlantis

Christopher,

Atlantis have recently experienced a number of Single Board Computer (SBC) failures within the FMC Topside Electronics Modules (TEMs). The cause of the failures is currently being investigated by the Atlantis team and others. One of the concerning issues associated with this failure was that it resulted in an undetected loss of communications. Currently the loss of subsea communications alarm is generated within the FMC TEM. On TEM failure, or more specifically SBC failure, the ability to detect and register loss of communications with our current configuration is lost. Total loss of communications is a condition that we are expected to be able to detect and act upon by the MMS. It is important that we act upon this undetected failure condition.

I understand that the Thunder Horse team is doing some work to detect a loss of communications between the SPCU and SCU, with the communications status being monitored from the Honeywell SCU. This may provide the solution to undetected failure mode issue on both Thunder Horse and Atlantis. Can you please advise more details on the detection and alarm configuration being pursued and the status of this initiative.

Regards

Ray

From: Berger, Ron K (Manatee)
Sent: Wednesday, August 06, 2008 10:39:49 AM
To: Fleming, Ray H; Curran, Christopher J
CC: Oza, Nita; Cotton, Steven L; Accardo, Angelo C; Kelly, William G; Courville, Jeffery J; Turner, Dave; Peloubet, Robert R; Whitehead, David K (Technip); 'SRactliffe@technip.com'
Subject: RE: Subsea Communication Loss Detection on Thunder Horse and Atlantis

Heres a little more info.

The loss of the Atlantis SBC were detected and alarmed. The issue was that these alarms were not obvious to the subsea cro. In addition, the existing ESD logic would only be affected if the subsea comm monitoring detected a loss . The latter is significant (as Ray points out) as the HPU is suppose to dump when dual comms occur during an ESD. However, the subsea comm detection only monitors downstream of the SBC. Since the SBC faulted, a subsea comm alarm could not be generated and therefore the HPU would not vent in the event of an ESD.

Action has already been taken to elevate the prosoft alarm (indication that the prosoft card in scu loses comms with the SBC in the SPCU) to the honeywell well screens. Further we are looking at changing the ESD logic to monitor both the prosoft and subsea comms alarms on making the decision to blowdown the HPU.

Ron

Discovery Ex. No. 220
Cause No.
4:09-cv-01193
Abbott v. BP

From: Fleming, Ray H
Sent: Wednesday, August 06, 2008 9:04 AM
To: Curran, Christopher J
Cc: Oza, Nita; Berger, Ron K (Manatee); Cotton, Steven L; Accardo, Angelo C; Kelly, William G; Courville, Jeffery J; Turner, Dave; Peloubet, Robert R; Whitehead, David K (Technip); SRactliffe@technip.com
Subject: Subsea Communication Loss Detection on Thunder Horse and Atlantis

Christopher,

Atlantis have recently experienced a number of Single Board Computer (SBC) failures within the FMC Topside Electronics Modules (TEMs). The cause of the failures is currently being investigated by the Atlantis team and others. One of the concerning issues associated with this failure was that it resulted in an undetected loss of communications. Currently the loss of subsea communications alarm is generated within the FMC TEM. On TEM failure, or more specifically SBC failure, the ability to detect and register loss of communications with our current configuration is lost. Total loss of communications is a condition that we are expected to be able to detect and act upon by the MMS. It is important that we act upon this undetected failure condition.

I understand that the Thunder Horse team is doing some work to detect a loss of communications between the SPCU and SCU, with the communications status being monitored from the Honeywell SCU. This may provide the solution to undetected failure mode issue on both Thunder Horse and Atlantis. Can you please advise more details on the detection and alarm configuration being pursued and the status of this initiative.

Regards

Ray

From: Cotton, Steven L
Sent: Wednesday, August 06, 2008 9:50 AM
To: Ragan, Frank
Cc: DeJohn, Kenneth P
Subject: FW: Subsea Communication Loss Detection on Thunder Horse and Atlantis

Frank,

I spoke to Ron Berger and Nita after I saw Ray Flemming's note. Ron's note below does clarify that we did reveive the alarms. I'll follow-up on you recommendation to initiate an RFA to include the MVI loss comms into the dual comms loss indication and the ESD logic.

Steve

From: Berger, Ron K (Manatee)
Sent: Wednesday, August 06, 2008 9:40 AM
To: Fleming, Ray H; Curran, Christopher J
Cc: Oza, Nita; Cotton, Steven L; Accardo, Angelo C; Kelly, William G; Courville, Jeffery J; Turner, Dave; Peloubet, Robert R; Whitehead, David K (Technip); 'SRactliffe@technip.com'
Subject: RE: Subsea Communication Loss Detection on Thunder Horse and Atlantis

Heres a little more info.

The loss of the Atlantis SBC were detected and alarmed. The issue was that these alarms were not obvious to the subsea cro. In addition, the existing ESD logic would only be affected if the subsea comm monitoring detected a loss . The latter is significant (as Ray points out) as the HPU is suppose to dump when dual comms occur during an ESD. However, the subsea comm detection only monitors downstream of the SBC. Since the SBC faulted, a subsea comm alarm could not be generated and therefore the HPU would not vent in the event of an ESD.

Action has already been taken to elevate the prosoft alarm (indication that the prosoft card in scu loses comms with the SBC in the SPCU) to the honeywell well screens. Further we are looking at changing the ESD logic to monitor both the prosoft and subsea comms alarms on making the decision to blowdown the HPU.

Ron

From: Fleming, Ray H
Sent: Wednesday, August 06, 2008 9:04 AM
To: Curran, Christopher J
Cc: Oza, Nita; Berger, Ron K (Manatee); Cotton, Steven L; Accardo, Angelo C; Kelly, William G; Courville, Jeffery J; Turner, Dave; Peloubet, Robert R; Whitehead, David K (Technip); SRactliffe@technip.com
Subject: Subsea Communication Loss Detection on Thunder Horse and Atlantis

Christopher,

Atlantis have recently experienced a number of Single Board Computer (SBC) failures within the FMC Topside Electronics Modules (TEMs). The cause of the failures is currently being investigated by the Atlantis team and others. One of the concerning issues associated with this failure was that it resulted in an undetected loss of communications. Currently the loss of subsea communications alarm is generated within the FMC TEM. On TEM failure, or more specifically SBC failure, the ability to detect and register loss of communications with our current configuration is lost. Total loss of communications is a condition that we are expected to be able to detect and act upon by the MMS. It is important that we act upon this undetected failure condition.

I understand that the Thunder Horse team is doing some work to detect a loss of communications between the SPCU and SCU, with the communications status being monitored from the Honeywell SCU. This may provide the solution to undetected failure mode issue on both Thunder Horse and Atlantis. Can you please advise more details on the detection and alarm configuration being pursued and the status of this initiative.

Regards

Ray

From: McIntosh, Brian <Brian.McIntosh@fmcti.com>
Sent: Friday, August 8, 2008 5:16 PM
To: Hartley, Jamie (FMC) <Jamie.Hartley@fmcti.com>; Leal, JJ (FMC) <JJ.Leal@fmcti.com>; Furneaux, Dale (FMC) <Dale.Furneaux@fmcti.com>; Bristol, Erik <ERIK.BRISTOL@fmcti.com>; Brooks, Randy R. (QA) <RandyR.Brooks@fmcti.com>; Berg, Johnny <Johnny.Berg@fks.fmcti.com>
Cc: Oza, Nita <ozan@bp.com>; Scott Leonard <scott.leonard@jpkhouston.com>; Cotton, Steven L <steven.cotton@bp.com>; Berger, Ron K (Manatee) <ron.berger@bp.com>; Reiff, Greg <Gregory.Reiff@fmcti.com>; THAI, LINH <LINH.THAI@fmcti.com>
Subject:

A root cause analysis kickoff meeting is being arranged and the team has been identified. Reliability Engineering is providing resources to facilitate this effort. I am working with the team to determine a problem statement from which to build the RCA. Some preliminary investigation was performed by Dale and Aneet. The four boards referred to below were identified by part number and serial number and then were installed in a known good VME rack. Of the four, three failed to boot and the fourth booted 3 out of four times. The firmware was examined and appeared to be fine. Dale has created a document to record his findings and has forwarded that in a separate e-mail. We have discussed having the boards sent to Norway to have further testing performed and are gathering any relevant QNs and FNCRs for evaluation during the RCA. We will meet on Tuesday to kick off this effort and can begin brainstorming and building the fault tree at that time.

Discovery Ex. No. 222
Cause No.
4:09-cv-01193
Abbott v. BP

Best Regards,

Brian L. McIntosh P.E.

Topside Product Engineering Manager

FMC Technologies Inc.

brian.mcintosh@fmcti.com

Phone: 281-591-4439

Exhibit 107
Part 6

From: Taylor, Elton Z
Sent: Sunday, August 10, 2008 5:33:16 PM
To: Little, Joshua J; Berger, Ron K (Manatee)
CC: Byrd, Wanda J; Boston, Julius; Bordelon, Christopher S (Baker Energy); Gipson, Les; Gardner, Alton P; Herrmann, Douglas T; Haiko, David J; Langlinais, Craig S; Young, Brian J; Oza, Nita; Harrison, Rickey; McGlothin, Clifton G; Ohlenforst, Thomas J; Patt, Darren L; Parikh, Manasi J; Angel, Keith F; Mack, Michael R; Snyder, David D; Ball, Michael A; Cotton, Steven L; Ragan, Frank; Laborde, David (Baker/MO); Snow, Jeff R; Thomas, Dennis J
Subject: RE: DC122 Shut in

Thanks Josh for the detailed events report. If you remove the last filter under description you can see that just before SEM A alarm there was two alarms on the LP Return Pressure.

From: Little, Joshua J
Sent: Sunday, August 10, 2008 4:07 PM
To: Taylor, Elton Z; Berger, Ron K (Manatee)
Cc: Byrd, Wanda J; Boston, Julius; Bordelon, Christopher S (Baker Energy); Gipson, Les; Gardner, Alton P; Herrmann, Douglas T; Haiko, David J; Langlinais, Craig S; Young, Brian J; Oza, Nita; Harrison, Rickey; McGlothin, Clifton G; Ohlenforst, Thomas J; Patt, Darren L; Parikh, Manasi J; Angel, Keith F; Mack, Michael R; Snyder, David D; Ball, Michael A; Cotton, Steven L; Ragan, Frank; Laborde, David (Baker/MO); Snow, Jeff R; Thomas, Dennis J
Subject: RE: DC122 Shut in

Attached is the event report from the Subsea server. The first tab was filtered to only show DC-122 tags and the second has everything for the last 2 days. You can see that the DC-122 SEM A STATUS has had a OFFNORML status several times before and it has returned to normal. We cannot say for sure if status alarm is directly or indirectly related to the bad values we got at the same time. Ron has contacted FMC and they will be looking into this issue today or tomorrow morning.

Currently we have SPCU_1's line breaker 5A open to prevent any possible complications with SEM-A & SEM-B communications. LIM_A common alarm (ATS_USSPC03A) is in alarm now. We watched the line monitor go through each line and the LCD indicated the resistance was always greater than 10 Mohms and showed no faults. We cleared the panels instrument alarms and it cleared, but came back shortly after.

<< File: 2008_10_08 DC-122 SBC shutin.xls >>

Joshua Little
Automation Specialist
BP Atlantis Operations
Office: (337) 735-2230
joshua.little@bp.com

From: Taylor, Elton Z
Sent: Sunday, August 10, 2008 11:29 AM
To: Berger, Ron K (Manatee)
Cc: Byrd, Wanda J; Boston, Julius; Bordelon, Christopher S (Baker Energy); Gipson, Les; Gardner, Alton P; Herrmann, Douglas T; Haiko, David J; Langlinais, Craig S; Little, Joshua J; Young, Brian J; Oza, Nita; Harrison, Rickey; McGlothin, Clifton G; Ohlenforst, Thomas J; Patt, Darren L; Parikh, Manasi J; Angel, Keith F; Mack, Michael R
Subject: DC122 Shut in

After this mornings tower change several alarms came in on DC122 at about 07:21. The DC122 well page showed that the PIV, PWV, SCSSV1, SCSSV2, CIDV1 and CIDV3 valves were in Failure (Yellow) and the SEM A was showing 22 VAC. The BHP was building , Choke upstream psi, Choke upstream Temperature, Choke Downstream psi, Jumper psi and P1 FA2 psi were all dropping. I and the Topside CRO began looking to find out if these reading were true. A loss in production confirmed that DC122 had shut in. DC122 shut in was reported to the OIM and Ops TL.
Josh Little reset the SEM A SBC.
Shut DC122 choke and secured PIV, PWV, SCSSV1, SCSSV2, CIDV1 and CIDV3 valves by giving them a closed command.
While Josh Little investigated the events log, I prepared the well to be restarted.
No reason or cause could be found for why well did shut in, however we did determine that there would be no danger in restarting the well until we could find the Clarification of the events and we what the Resolution will be to eliminate the problem.
We have contacted Ron Berger and he will have FMC report to the Westlake location to review the events with the Smart Tool. Also Josh Little will shut down DC122 SEM A side after he is finished reviewing the events log.
DC122 was shut in at 07:21. Ramp up began at 08:16

From: Little, Joshua J
Sent: Sunday, August 10, 2008 5:06:45 PM
To: Taylor, Elton Z; Berger, Ron K (Manatee)
CC: Byrd, Wanda J; Boston, Julius; Bordelon, Christopher S (Baker Energy); Gipson, Les; Gardner, Alton P; Herrmann, Douglas T; Haiko, David J; Langlinais, Craig S; Young, Brian J; Oza, Nita; Harrison, Rickey; McGlothin, Clifton G; Ohlenforst, Thomas J; Patt, Darren L; Parikh, Manasi J; Angel, Keith F; Mack, Michael R; Snyder, David D; Ball, Michael A; Cotton, Steven L; Ragan, Frank; Laborde, David (Baker/MO); Snow, Jeff R; Thomas, Dennis J
Subject: RE: DC122 Shut in

Attachments: 2008_10_08 DC-122 SBC shutin.xls

Attached is the event report from the Subsea server. The first tab was filtered to only show DC-122 tags and the second has everything for the last 2 days. You can see that the DC-122 SEM A STATUS has had a OFFNORML status several times before and it has returned to normal. We cannot say for sure if status alarm is directly or indirectly related to the bad values we got at the same time. Ron has contacted FMC and they will be looking into this issue today or tomorrow morning.

Currently we have SPCU_1's line breaker 5A open to prevent any possible complications with SEM-A & SEM-B communications. LIM_A common alarm (ATS_USSPC03A) is in alarm now. We watched the line monitor go through each line and the LCD indicated the resistance was always greater than 10 Mohms and showed no faults. We cleared the panels instrument alarms and it cleared, but came back shortly after.

2008_10_08
DC-122 SBC
shutin.xls
(606 kB)

Joshua Little
Automation Specialist
BP Atlantis Operations
Office: (337) 735-2230
joshua.little@bp.com

From: Taylor, Elton Z
Sent: Sunday, August 10, 2008 11:29 AM
To: Berger, Ron K (Manatee)
Cc: Byrd, Wanda J; Boston, Julius; Bordelon, Christopher S (Baker Energy); Gipson, Les; Gardner, Alton P; Herrmann, Douglas T; Haiko, David J; Langlinais, Craig S; Little, Joshua J; Young, Brian J; Oza, Nita; Harrison, Rickey; McGlothin, Clifton G; Ohlenforst, Thomas J; Patt, Darren L; Parikh, Manasi J; Angel, Keith F; Mack, Michael R
Subject: DC122 Shut in

After this mornings tower change several alarms came in on DC122 at about 07:21. The DC122 well page showed that the PIV, PWV, SCSSV1, SCSSV2, CIDV1 and CIDV3 valves were in Failure (Yellow) and the SEM A was showing 22 VAC. The BHP was building , Choke upstream psi, Choke upstream Temperature, Choke Downstream psi, Jumper psi and P1 FA2 psi were all dropping. I and the Topside CRO began looking to find out if these reading were true. A loss in production confirmed that DC122 had shut in. DC122 shut in was reported to the OIM and Ops TL.
Josh Little reset the SEM A SBC.
Shut DC122 choke and secured PIV, PWV, SCSSV1, SCSSV2, CIDV1 and CIDV3 valves by giving them a closed command.
While Josh Little investigated the events log, I prepared the well to be restarted.
No reason or cause could be found for why well did shut in, however we did determine that there would be no danger in restarting the well until we could find the Clarification of the events and we what the Resolution will be to eliminate the problem.
We have contacted Ron Berger and he will have FMC report to the Westlake location to review the events with the Smart Tool. Also Josh Little will shut down DC122 SEM A side after he is finished reviewing the events log.
DC122 was shut in at 07:21. Ramp up began at 08:16

BPEP_ABB_03626945.xls "SSS-DC122" Sheet

	A	B	C	D	E	F	G	H	I	J	K
1	Date	Time	Source	Condition		Level	Description	Value	Units	Operator	Sort
24	22-Jul-08	16:25:13	ATS_US12266A	ALARM		H 00	DC-122 SEM A STATUS	OFFNORML			
25	22-Jul-08	16:25:13	ATS_US12268A	ALARM		H 00	DC-122 SEM A COMM STATUS	OFFNORML			
26	22-Jul-08	16:25:48	ATS_US12266A	ALARM	ACK	NONE	DC-122 SEM A STATUS	OFFNORML		SSSFast	
27	22-Jul-08	16:25:48	ATS_US12266A	ALARM	ACK PNT	NONE	DC-122 SEM A STATUS			SSSFast	
28	22-Jul-08	16:25:48	ATS_US12268A	ALARM	ACK	NONE	DC-122 SEM A COMM STATUS	OFFNORML		SSSFast	
29	22-Jul-08	16:25:48	ATS_US12268A	ALARM	ACK PNT	NONE	DC-122 SEM A COMM STATUS			SSSFast	
32	22-Jul-08	16:26:05	ATS_ET12265A_STAT	ALARM		H 00	DC-122 SEM SUPPLY VOLTAGE SEM A STATUS	PV_BAD			
33	22-Jul-08	16:26:05	ATS_US12266A	ALARM	OK	H 00	DC-122 SEM A STATUS	NORMAL			1
34	22-Jul-08	16:26:05	ATS_US12268A	ALARM	OK	H 00	DC-122 SEM A COMM STATUS	NORMAL			1
35	22-Jul-08	16:26:07	ATS_ET12265A_STAT	ALARM	OK	H 00	DC-122 SEM SUPPLY VOLTAGE SEM A STATUS	NORMAL			1
36	22-Jul-08	16:26:45	ATS_ET12265A_STAT	ALARM	ACK	NONE		PV_BAD		SSSFast	
37	22-Jul-08	16:47:51	ATS_US12266A	ALARM		H 00		OFFNORML			
38	22-Jul-08	16:47:51	ATS_US12268A	ALARM		H 00		OFFNORML			
39	22-Jul-08	16:48:41	ATS_US12266A	ALARM	OK	H 00		NORMAL			
40	22-Jul-08	16:48:41	ATS_US12268A	ALARM	OK	H 00		NORMAL			
41	22-Jul-08	16:49:40	ATS_US12266A	ALARM	ACK	NONE		OFFNORML		SSSFast	
42	22-Jul-08	16:49:42	ATS_US12268A	ALARM	ACK	NONE		OFFNORML		SSSFast	
104	26-Jul-08	10:43:29	ATS_US12266A	ALARM		H 00		OFFNORML			
105	26-Jul-08	10:43:29	ATS_US12268A	ALARM		H 00		OFFNORML			
108	26-Jul-08	10:44:11	ATS_US12266A	ALARM	ACK	NONE		OFFNORML		SSSFast	
109	26-Jul-08	10:44:11	ATS_US12266A	ALARM	ACK PNT	NONE				SSSFast	
110	26-Jul-08	10:44:11	ATS_US12268A	ALARM	ACK	NONE		OFFNORML		SSSFast	
111	26-Jul-08	10:44:11	ATS_US12268A	ALARM	ACK PNT	NONE				SSSFast	
112	26-Jul-08	10:44:18	ATS_US12266A	ALARM	OK	H 00		NORMAL			
113	26-Jul-08	10:44:18	ATS_US12268A	ALARM	OK	H 00		NORMAL			
122	26-Jul-08	18:43:54	ATS_US12266A	ALARM		H 00		OFFNORML			
123	26-Jul-08	18:43:54	ATS_US12268A	ALARM		H 00		OFFNORML			
124	26-Jul-08	18:44:06	ATS_US12266A	ALARM	ACK	NONE		OFFNORML		SSSFast	
125	26-Jul-08	18:44:06	ATS_US12266A	ALARM	ACK PNT	NONE				SSSFast	
126	26-Jul-08	18:44:06	ATS_US12268A	ALARM	ACK	NONE		OFFNORML		SSSFast	
127	26-Jul-08	18:44:06	ATS_US12268A	ALARM	ACK PNT	NONE				SSSFast	
128	26-Jul-08	18:44:45	ATS_US12266A	ALARM	OK	H 00		NORMAL			
129	26-Jul-08	18:44:45	ATS_US12268A	ALARM	OK	H 00		NORMAL			
136	27-Jul-08	17:34:15	ATS_US12266A	ALARM		H 00		OFFNORML			
137	27-Jul-08	17:34:15	ATS_US12268A	ALARM		H 00		OFFNORML			
138	27-Jul-08	17:34:41	ATS_US12266A	ALARM	ACK	NONE		OFFNORML		SSSFast	
139	27-Jul-08	17:34:41	ATS_US12266A	ALARM	ACK PNT	NONE				SSSFast	
140	27-Jul-08	17:34:41	ATS_US12268A	ALARM	ACK	NONE		OFFNORML		SSSFast	

Case 4:09-cv-01193 Document 343-12 Filed in TXSD on 04/04/12 Page 4 of 30

BPEP_ABB_03626945.xls "SSS-DC122" Sheet

	A	B	C	D	E	F	G	H	I	J	K
1	Date	Time	Source	Condition		Level	Description	Value	Units	Operator	Sort
141	27-Jul-08	17:34:41	ATS_US12268A	ALARM	ACK PNT	NONE	DC-122 SEM A COMM STATUS			SSSFast	
142	27-Jul-08	17:35:06	ATS_US12266A	ALARM	OK	H 00	DC-122 SEM A STATUS	NORMAL			
143	27-Jul-08	17:35:06	ATS_US12268A	ALARM	OK	H 00	DC-122 SEM A COMM STATUS	NORMAL			
144	28-Jul-08	0:11:23	ATS_US12266A	ALARM		H 00	DC-122 SEM A STATUS	OFFNORML			
145	28-Jul-08	0:11:23	ATS_US12268A	ALARM		H 00	DC-122 SEM A COMM STATUS	OFFNORML			1
146	28-Jul-08	0:12:06	ATS_US12266A	ALARM	ACK	NONE	DC-122 SEM A STATUS	OFFNORML		SSSFast	1
147	28-Jul-08	0:12:10	ATS_ET12265A_STAT	ALARM		H 00	DC-122 SEM SUPPLY VOLTAGE SEM A STATUS	PV_BAD			1
148	28-Jul-08	0:12:13	ATS_ET12265A_STAT	ALARM	ACK	NONE	DC-122 SEM SUPPLY VOLTAGE SEM A STATUS	PV_BAD		SSSFast	1
149	28-Jul-08	0:12:14	ATS_US12266A	ALARM	OK	H 00	DC-122 SEM A STATUS	NORMAL			
150	28-Jul-08	0:12:14	ATS_US12268A	ALARM	OK	H 00	DC-122 SEM A COMM STATUS	NORMAL			
151	28-Jul-08	0:12:17	ATS_ET12265A_STAT	ALARM	OK	H 00	DC-122 SEM SUPPLY VOLTAGE SEM A STATUS	NORMAL			
152	28-Jul-08	0:12:31	ATS_US12268A	ALARM	ACK	NONE	DC-122 SEM A COMM STATUS	OFFNORML		SSSFast	
238	31-Jul-08	6:44:21	ATS_US12266A	ALARM		H 00	DC-122 SEM A STATUS	OFFNORML			
239	31-Jul-08	6:44:21	ATS_US12268A	ALARM		H 00	DC-122 SEM A COMM STATUS	OFFNORML			
240	31-Jul-08	6:44:54	ATS_ET12265A_STAT	ALARM		H 00	DC-122 SEM SUPPLY VOLTAGE SEM A STATUS	PV_BAD			
241	31-Jul-08	6:44:56	ATS_US12266A	ALARM	ACK	NONE	DC-122 SEM A STATUS	OFFNORML		SSSFast	
242	31-Jul-08	6:44:56	ATS_US12266A	ALARM	ACK PNT	NONE	DC-122 SEM A STATUS			SSSFast	
243	31-Jul-08	6:44:56	ATS_US12268A	ALARM	ACK	NONE	DC-122 SEM A COMM STATUS	OFFNORML		SSSFast	
244	31-Jul-08	6:44:56	ATS_US12268A	ALARM	ACK PNT	NONE	DC-122 SEM A COMM STATUS			SSSFast	
245	31-Jul-08	6:44:56	ATS_ET12265A_STAT	ALARM	ACK	NONE	DC-122 SEM SUPPLY VOLTAGE SEM A STATUS	PV_BAD		SSSFast	
246	31-Jul-08	6:44:56	ATS_ET12265A_STAT	ALARM	ACK PNT	NONE	DC-122 SEM SUPPLY VOLTAGE SEM A STATUS			SSSFast	
247	31-Jul-08	6:45:11	ATS_US12266A	ALARM	OK	H 00	DC-122 SEM A STATUS	NORMAL			
248	31-Jul-08	6:45:11	ATS_US12268A	ALARM	OK	H 00	DC-122 SEM A COMM STATUS	NORMAL			
251	31-Jul-08	6:45:14	ATS_ET12265A_STAT	ALARM	OK	H 00	DC-122 SEM SUPPLY VOLTAGE SEM A STATUS	NORMAL			
258	31-Jul-08	12:47:06	ATS_US12266A	ALARM		H 00	DC-122 SEM A STATUS	OFFNORML			
259	31-Jul-08	12:47:06	ATS_US12268A	ALARM		H 00	DC-122 SEM A COMM STATUS	OFFNORML			
260	31-Jul-08	12:47:34	ATS_US12266A	ALARM	ACK	NONE	DC-122 SEM A STATUS	OFFNORML		SSSFast	
261	31-Jul-08	12:47:34	ATS_US12266A	ALARM	ACK PNT	NONE	DC-122 SEM A STATUS			SSSFast	
262	31-Jul-08	12:47:34	ATS_US12268A	ALARM	ACK	NONE	DC-122 SEM A COMM STATUS	OFFNORML		SSSFast	
263	31-Jul-08	12:47:34	ATS_US12268A	ALARM	ACK PNT	NONE	DC-122 SEM A COMM STATUS			SSSFast	
264	31-Jul-08	12:47:58	ATS_US12266A	ALARM	OK	H 00	DC-122 SEM A STATUS	NORMAL			
265	31-Jul-08	12:47:58	ATS_US12268A	ALARM	OK	H 00	DC-122 SEM A COMM STATUS	NORMAL			
276	1-Aug-08	5:19:03	ATS_US12266A	ALARM		H 00	DC-122 SEM A STATUS	OFFNORML			
277	1-Aug-08	5:19:03	ATS_US12268A	ALARM		H 00	DC-122 SEM A COMM STATUS	OFFNORML			
278	1-Aug-08	5:19:54	ATS_US12266A	ALARM	OK	H 00	DC-122 SEM A STATUS	NORMAL			
279	1-Aug-08	5:19:54	ATS_US12268A	ALARM	OK	H 00	DC-122 SEM A COMM STATUS	NORMAL			
280	1-Aug-08	5:23:48	ATS_US12266A	ALARM	ACK	NONE	DC-122 SEM A STATUS	OFFNORML		SSSFast	
281	1-Aug-08	5:23:48	ATS_US12266A	ALARM	ACK PNT	NONE	DC-122 SEM A STATUS			SSSFast	

Case 4:09-cv-01193 Document 343-12 Filed in TXSD on 04/04/12 Page 5 of 30

BPEP_ABB_03626945.xls "SSS-DC122" Sheet

	A	B	C	D	E	F	G	H	I	J	K
1	Date	Time	Source	Condition		Level	Description	Value	Units	Operator	Sort
282	1-Aug-08	5:23:48	ATS_US12268A	ALARM	ACK	NONE	DC-122 SEM A COMM STATUS	OFFNORML		SSSFast	
283	1-Aug-08	5:23:48	ATS_US12268A	ALARM	ACK PNT	NONE	DC-122 SEM A COMM STATUS			SSSFast	
286	1-Aug-08	5:32:19	ATS_US12266A	ALARM		H 00	DC-122 SEM A STATUS	OFFNORML			
287	1-Aug-08	5:32:19	ATS_US12268A	ALARM		H 00	DC-122 SEM A COMM STATUS	OFFNORML			
288	1-Aug-08	5:32:40	ATS_US12266A	ALARM	ACK	NONE	DC-122 SEM A STATUS	OFFNORML		SSSFast	
289	1-Aug-08	5:32:40	ATS_US12266A	ALARM	ACK PNT	NONE	DC-122 SEM A STATUS			SSSFast	
290	1-Aug-08	5:32:40	ATS_US12268A	ALARM	ACK	NONE	DC-122 SEM A COMM STATUS	OFFNORML		SSSFast	
291	1-Aug-08	5:32:40	ATS_US12268A	ALARM	ACK PNT	NONE	DC-122 SEM A COMM STATUS			SSSFast	
294	1-Aug-08	5:32:50	ATS_ET12265A_STAT	ALARM		H 00	DC-122 SEM SUPPLY VOLTAGE SEM A STATUS	PV_BAD			
295	1-Aug-08	5:33:09	ATS_ET12265A_STAT	ALARM	ACK	NONE	DC-122 SEM SUPPLY VOLTAGE SEM A STATUS	PV_BAD		SSSFast	
296	1-Aug-08	5:33:09	ATS_ET12265A_STAT	ALARM	ACK PNT	NONE	DC-122 SEM SUPPLY VOLTAGE SEM A STATUS			SSSFast	
297	1-Aug-08	5:33:11	ATS_US12266A	ALARM	OK	H 00	DC-122 SEM A STATUS	NORMAL			
298	1-Aug-08	5:33:11	ATS_US12268A	ALARM	OK	H 00	DC-122 SEM A COMM STATUS	NORMAL			
299	1-Aug-08	5:33:14	ATS_ET12265A_STAT	ALARM	OK	H 00	DC-122 SEM SUPPLY VOLTAGE SEM A STATUS	NORMAL			
300	1-Aug-08	11:00:02	ATS_US12266A	ALARM		H 00	DC-122 SEM A STATUS	OFFNORML			
301	1-Aug-08	11:00:02	ATS_US12268A	ALARM		H 00	DC-122 SEM A COMM STATUS	OFFNORML			
302	1-Aug-08	11:00:55	ATS_US12266A	ALARM	OK	H 00	DC-122 SEM A STATUS	NORMAL			
303	1-Aug-08	11:00:55	ATS_US12268A	ALARM	OK	H 00	DC-122 SEM A COMM STATUS	NORMAL			
304	1-Aug-08	11:01:43	ATS_US12266A	ALARM		H 00	DC-122 SEM A STATUS	OFFNORML			
305	1-Aug-08	11:01:43	ATS_US12268A	ALARM		H 00	DC-122 SEM A COMM STATUS	OFFNORML			
306	1-Aug-08	11:02:35	ATS_US12266A	ALARM	OK	H 00	DC-122 SEM A STATUS	NORMAL			
307	1-Aug-08	11:02:35	ATS_US12268A	ALARM	OK	H 00	DC-122 SEM A COMM STATUS	NORMAL			
308	1-Aug-08	11:03:19	ATS_US12266A	ALARM		H 00	DC-122 SEM A STATUS	OFFNORML			
309	1-Aug-08	11:03:19	ATS_US12268A	ALARM		H 00	DC-122 SEM A COMM STATUS	OFFNORML			
310	1-Aug-08	11:04:13	ATS_US12266A	ALARM	OK	H 00	DC-122 SEM A STATUS	NORMAL			
311	1-Aug-08	11:04:13	ATS_US12268A	ALARM	OK	H 00	DC-122 SEM A COMM STATUS	NORMAL			
312	1-Aug-08	11:10:16	ATS_US12266A	ALARM	ACK	NONE	DC-122 SEM A STATUS	OFFNORML		SSSFast	
313	1-Aug-08	11:10:40	ATS_US12268A	ALARM	ACK	NONE	DC-122 SEM A COMM STATUS	OFFNORML		SSSFast	
314	1-Aug-08	11:14:13	ATS_US12266A	ALARM		H 00	DC-122 SEM A STATUS	OFFNORML			
315	1-Aug-08	11:14:13	ATS_US12268A	ALARM		H 00	DC-122 SEM A COMM STATUS	OFFNORML			
316	1-Aug-08	11:14:53	ATS_US12266A	ALARM	ACK	NONE	DC-122 SEM A STATUS	OFFNORML		SSSFast	
317	1-Aug-08	11:15:04	ATS_US12266A	ALARM	OK	H 00	DC-122 SEM A STATUS	NORMAL			
318	1-Aug-08	11:15:04	ATS_US12268A	ALARM	OK	H 00	DC-122 SEM A COMM STATUS	NORMAL			
319	1-Aug-08	11:15:10	ATS_US12268A	ALARM	ACK	NONE	DC-122 SEM A COMM STATUS	OFFNORML		SSSFast	
320	1-Aug-08	11:20:32	ATS_US12266A	ALARM		H 00	DC-122 SEM A STATUS	OFFNORML			
321	1-Aug-08	11:20:32	ATS_US12268A	ALARM		H 00	DC-122 SEM A COMM STATUS	OFFNORML			
322	1-Aug-08	11:21:20	ATS_ET12265A_STAT	ALARM		H 00	DC-122 SEM SUPPLY VOLTAGE SEM A STATUS	PV_BAD			
323	1-Aug-08	11:21:24	ATS_US12266A	ALARM	OK	H 00	DC-122 SEM A STATUS	NORMAL			

Case 4:09-cv-01193 Document 343-12 Filed in TXSD on 04/04/12 Page 6 of 30

	A	B	C	D	E	F	G	H	I	J	K
1	Date	Time	Source	Condition		Level	Description	Value	Units	Operator	Sort
324	1-Aug-08	11:21:24	ATS_US12268A	ALARM	OK	H 00	DC-122 SEM A COMM STATUS	NORMAL			
325	1-Aug-08	11:21:26	ATS_ET12265A_STAT	ALARM	OK	H 00	DC-122 SEM SUPPLY VOLTAGE SEM A STATUS	NORMAL			
326	1-Aug-08	11:22:18	ATS_US12266A	ALARM	ACK	NONE	DC-122 SEM A STATUS	OFFNORML		SSSFast	
327	1-Aug-08	11:22:18	ATS_US12266A	ALARM	ACK PNT	NONE	DC-122 SEM A STATUS			SSSFast	
328	1-Aug-08	11:22:18	ATS_US12268A	ALARM	ACK	NONE	DC-122 SEM A COMM STATUS	OFFNORML		SSSFast	
329	1-Aug-08	11:22:18	ATS_US12268A	ALARM	ACK PNT	NONE	DC-122 SEM A COMM STATUS			SSSFast	
330	1-Aug-08	11:22:18	ATS_ET12265A_STAT	ALARM	ACK	NONE	DC-122 SEM SUPPLY VOLTAGE SEM A STATUS	PV_BAD		SSSFast	
331	1-Aug-08	11:22:18	ATS_ET12265A_STAT	ALARM	ACK PNT	NONE	DC-122 SEM SUPPLY VOLTAGE SEM A STATUS			SSSFast	
332	2-Aug-08	12:12:44	ATS_US12266A	ALARM		H 00	DC-122 SEM A STATUS	OFFNORML			
333	2-Aug-08	12:12:44	ATS_US12268A	ALARM		H 00	DC-122 SEM A COMM STATUS	OFFNORML			
334	2-Aug-08	12:12:51	ATS_US12266A	ALARM	ACK	NONE	DC-122 SEM A STATUS	OFFNORML		SSSFast	
335	2-Aug-08	12:12:55	ATS_US12268A	ALARM	ACK	NONE	DC-122 SEM A COMM STATUS	OFFNORML		SSSFast	
336	2-Aug-08	12:13:37	ATS_US12268A	ALARM	OK	H 00	DC-122 SEM A COMM STATUS	NORMAL			
337	2-Aug-08	12:13:38	ATS_US12266A	ALARM	OK	H 00	DC-122 SEM A STATUS	NORMAL			
1037	9-Aug-08	0:48:25	ATS_US12266A	ALARM		H 00	DC-122 SEM A STATUS	OFFNORML			
1038	9-Aug-08	0:48:25	ATS_US12268A	ALARM		H 00	DC-122 SEM A COMM STATUS	OFFNORML			
1045	9-Aug-08	0:49:44	ATS_ET12265A_STAT	ALARM		H 00	DC-122 SEM SUPPLY VOLTAGE SEM A STATUS	PV_BAD			
1046	9-Aug-08	0:50:06	ATS_US12266A	ALARM	OK	H 00	DC-122 SEM A STATUS	NORMAL			
1047	9-Aug-08	0:50:06	ATS_US12268A	ALARM	OK	H 00	DC-122 SEM A COMM STATUS	NORMAL			
1048	9-Aug-08	0:50:08	ATS_ET12265A_STAT	ALARM	OK	H 00	DC-122 SEM SUPPLY VOLTAGE SEM A STATUS	NORMAL			
1049	9-Aug-08	0:51:17	ATS_US12266A	ALARM		H 00	DC-122 SEM A STATUS	OFFNORML			
1050	9-Aug-08	0:51:17	ATS_US12268A	ALARM		H 00	DC-122 SEM A COMM STATUS	OFFNORML			
1051	9-Aug-08	0:51:35	ATS_US12266A	ALARM	OK	H 00	DC-122 SEM A STATUS	NORMAL			
1052	9-Aug-08	0:51:35	ATS_US12268A	ALARM	OK	H 00	DC-122 SEM A COMM STATUS	NORMAL			
1053	9-Aug-08	0:51:37	ATS_US12266A	ALARM		H 00	DC-122 SEM A STATUS	OFFNORML			
1054	9-Aug-08	0:51:37	ATS_US12268A	ALARM		H 00	DC-122 SEM A COMM STATUS	OFFNORML			
1055	9-Aug-08	0:51:45	ATS_ET12265A_STAT	ALARM		H 00	DC-122 SEM SUPPLY VOLTAGE SEM A STATUS	PV_BAD			
1056	9-Aug-08	0:51:52	ATS_US12266A	ALARM	OK	H 00	DC-122 SEM A STATUS	NORMAL			
1057	9-Aug-08	0:51:52	ATS_US12268A	ALARM	OK	H 00	DC-122 SEM A COMM STATUS	NORMAL			
1058	9-Aug-08	0:51:55	ATS_US12266A	ALARM		H 00	DC-122 SEM A STATUS	OFFNORML			
1059	9-Aug-08	0:51:55	ATS_US12268A	ALARM		H 00	DC-122 SEM A COMM STATUS	OFFNORML			
1060	9-Aug-08	0:52:10	ATS_US12266A	ALARM	OK	H 00	DC-122 SEM A STATUS	NORMAL			
1061	9-Aug-08	0:52:10	ATS_US12268A	ALARM	OK	H 00	DC-122 SEM A COMM STATUS	NORMAL			
1062	9-Aug-08	0:52:12	ATS_US12266A	ALARM		H 00	DC-122 SEM A STATUS	OFFNORML			
1063	9-Aug-08	0:52:12	ATS_US12268A	ALARM		H 00	DC-122 SEM A COMM STATUS	OFFNORML			
1092	9-Aug-08	0:52:16	ATS_ET12265A_STAT	ALARM	OK	H 00	DC-122 SEM SUPPLY VOLTAGE SEM A STATUS	NORMAL			
1109	9-Aug-08	0:53:44	ATS_ET12265A_STAT	ALARM		H 00	DC-122 SEM SUPPLY VOLTAGE SEM A STATUS	PV_BAD			
1114	9-Aug-08	0:54:01	ATS_US12266A	ALARM	ACK	NONE	DC-122 SEM A STATUS	OFFNORML		SSSCRO	

Case 4:09-cv-01193 Document 343-12 Filed in TXSD on 04/04/12 Page 7 of 30

	A	B	C	D	E	F	G	H	I	J	K
1	Date	Time	Source	Condition		Level	Description	Value	Units	Operator	Sort
1115	9-Aug-08	0:54:01	ATS_US12266A	ALARM	ACK PNT	NONE	DC-122 SEM A STATUS			SSSCRO	
1116	9-Aug-08	0:54:01	ATS_US12268A	ALARM	ACK	NONE	DC-122 SEM A COMM STATUS	OFFNORML		SSSCRO	
1117	9-Aug-08	0:54:01	ATS_US12268A	ALARM	ACK PNT	NONE	DC-122 SEM A COMM STATUS			SSSCRO	
1142	9-Aug-08	0:54:01	ATS_ET12265A_STAT	ALARM	ACK	NONE	DC-122 SEM SUPPLY VOLTAGE SEM A STATUS	PV_BAD		SSSCRO	
1143	9-Aug-08	0:54:01	ATS_ET12265A_STAT	ALARM	ACK PNT	NONE	DC-122 SEM SUPPLY VOLTAGE SEM A STATUS			SSSCRO	
1164	9-Aug-08	15:33:51	ATS_EI12265A	PVLO		H 00	DC-122 SEM SUPPLY VOLTAGE SEM A	0	VAC		
1177	9-Aug-08	15:34:13	ATS_US12266A	ALARM	OK	H 00	DC-122 SEM A STATUS	NORMAL			
1178	9-Aug-08	15:34:13	ATS_US12268A	ALARM	OK	H 00	DC-122 SEM A COMM STATUS	NORMAL			
1191	9-Aug-08	15:34:18	ATS_ET12265A_STAT	ALARM	OK	H 00	DC-122 SEM SUPPLY VOLTAGE SEM A STATUS	NORMAL			
1192	9-Aug-08	15:34:18	ATS_EI12265A	PVLO	OK	H 00	DC-122 SEM SUPPLY VOLTAGE SEM A	239.594	VAC		
1197	9-Aug-08	15:34:45	ATS_EI12265A	PVLO	ACK	NONE	DC-122 SEM SUPPLY VOLTAGE SEM A	0	VAC	SSSCRO	
1198	9-Aug-08	15:34:45	ATS_EI12265A	ALARM	ACK PNT	NONE	DC-122 SEM SUPPLY VOLTAGE SEM A			SSSCRO	
1295	10-Aug-08	7:21:06	ATS_US12266A	ALARM		H 00	DC-122 SEM A STATUS	OFFNORML			
1296	10-Aug-08	7:21:06	ATS_US12268A	ALARM		H 00	DC-122 SEM A COMM STATUS	OFFNORML			
1313	10-Aug-08	7:21:50	ATS_ET12265A_STAT	ALARM		H 00	DC-122 SEM SUPPLY VOLTAGE SEM A STATUS	PV_BAD			
1314	10-Aug-08	7:22:00	ATS_US12266A	ALARM	OK	H 00	DC-122 SEM A STATUS	NORMAL			
1315	10-Aug-08	7:22:00	ATS_US12268A	ALARM	OK	H 00	DC-122 SEM A COMM STATUS	NORMAL			
1316	10-Aug-08	7:22:00	ATS_ET12265A_STAT	ALARM	OK	H 00	DC-122 SEM SUPPLY VOLTAGE SEM A STATUS	NORMAL			
1317	10-Aug-08	7:22:00	ATS_EI12265A	PVLO		H 00	DC-122 SEM SUPPLY VOLTAGE SEM A	22	VAC		
1321	10-Aug-08	7:22:34	ATS_US12266A	ALARM	ACK	NONE	DC-122 SEM A STATUS	OFFNORML		SSSCRO	
1322	10-Aug-08	7:22:34	ATS_US12266A	ALARM	ACK PNT	NONE	DC-122 SEM A STATUS			SSSCRO	
1323	10-Aug-08	7:22:34	ATS_US12268A	ALARM	ACK	NONE	DC-122 SEM A COMM STATUS	OFFNORML		SSSCRO	
1324	10-Aug-08	7:22:34	ATS_US12268A	ALARM	ACK PNT	NONE	DC-122 SEM A COMM STATUS			SSSCRO	
1339	10-Aug-08	7:22:34	ATS_EI12265A	PVLO	ACK	NONE	DC-122 SEM SUPPLY VOLTAGE SEM A	22	VAC	SSSCRO	
1340	10-Aug-08	7:22:34	ATS_EI12265A	ALARM	ACK PNT	NONE	DC-122 SEM SUPPLY VOLTAGE SEM A			SSSCRO	
1341	10-Aug-08	7:22:34	ATS_ET12265A_STAT	ALARM	ACK	NONE	DC-122 SEM SUPPLY VOLTAGE SEM A STATUS	PV_BAD		SSSCRO	
1342	10-Aug-08	7:22:34	ATS_ET12265A_STAT	ALARM	ACK PNT	NONE	DC-122 SEM SUPPLY VOLTAGE SEM A STATUS			SSSCRO	
1349	10-Aug-08	7:33:57	ATS_US12266A	ALARM		H 00	DC-122 SEM A STATUS	OFFNORML			
1350	10-Aug-08	7:33:57	ATS_US12268A	ALARM		H 00	DC-122 SEM A COMM STATUS	OFFNORML			
1351	10-Aug-08	7:34:19	ATS_US12266A	ALARM	ACK	NONE	DC-122 SEM A STATUS	OFFNORML		SSSCRO	
1352	10-Aug-08	7:34:19	ATS_US12266A	ALARM	ACK PNT	NONE	DC-122 SEM A STATUS			SSSCRO	
1353	10-Aug-08	7:34:19	ATS_US12268A	ALARM	ACK	NONE	DC-122 SEM A COMM STATUS	OFFNORML		SSSCRO	
1354	10-Aug-08	7:34:19	ATS_US12268A	ALARM	ACK PNT	NONE	DC-122 SEM A COMM STATUS			SSSCRO	
1375	10-Aug-08	7:35:38	ATS_ET12265A_STAT	ALARM		H 00	DC-122 SEM SUPPLY VOLTAGE SEM A STATUS	PV_BAD			
1410	10-Aug-08	7:35:57	ATS_ET12265A_STAT	ALARM	ACK	NONE	DC-122 SEM SUPPLY VOLTAGE SEM A STATUS	PV_BAD		SSSCRO	
1411	10-Aug-08	7:35:57	ATS_ET12265A_STAT	ALARM	ACK PNT	NONE	DC-122 SEM SUPPLY VOLTAGE SEM A STATUS			SSSCRO	
1423	10-Aug-08	7:36:04	ATS_US12266A	ALARM	OK	H 00	DC-122 SEM A STATUS	NORMAL			
1424	10-Aug-08	7:36:04	ATS_US12268A	ALARM	OK	H 00	DC-122 SEM A COMM STATUS	NORMAL			

Case 4:09-cv-01193 Document 343-12 Filed in TXSD on 04/04/12 Page 8 of 30

	A	B	C	D	E	F	G	H	I	J	K
1	Date	Time	Source	Condition		Level	Description	Value	Units	Operator	Sort
1437	10-Aug-08	7:36:04	ATS_ET12265A_STAT	ALARM	OK	H 00	DC-122 SEM SUPPLY VOLTAGE SEM A STATUS	NORMAL			
1451	10-Aug-08	7:36:36	ATS_US12266A	ALARM		H 00	DC-122 SEM A STATUS	OFFNORML			
1452	10-Aug-08	7:36:36	ATS_US12268A	ALARM		H 00	DC-122 SEM A COMM STATUS	OFFNORML			
1453	10-Aug-08	7:36:38	ATS_US12266A	ALARM	ACK	NONE	DC-122 SEM A STATUS	OFFNORML		SSSCRO	
1454	10-Aug-08	7:36:40	ATS_US12268A	ALARM	ACK	NONE	DC-122 SEM A COMM STATUS	OFFNORML		SSSCRO	
1463	10-Aug-08	7:37:11	ATS_ET12265A_STAT	ALARM		H 00	DC-122 SEM SUPPLY VOLTAGE SEM A STATUS	PV_BAD			
1464	10-Aug-08	7:37:30	ATS_US12266A	ALARM	OK	H 00	DC-122 SEM A STATUS	NORMAL			
1465	10-Aug-08	7:37:30	ATS_US12268A	ALARM	OK	H 00	DC-122 SEM A COMM STATUS	NORMAL			
1466	10-Aug-08	7:37:32	ATS_ET12265A_STAT	ALARM	OK	H 00	DC-122 SEM SUPPLY VOLTAGE SEM A STATUS	NORMAL			
1470	10-Aug-08	7:37:41	ATS_ET12265A_STAT	ALARM	ACK	NONE	DC-122 SEM SUPPLY VOLTAGE SEM A STATUS	PV_BAD		SSSCRO	
1471	10-Aug-08	7:37:41	ATS_ET12265A_STAT	ALARM	ACK PNT	NONE	DC-122 SEM SUPPLY VOLTAGE SEM A STATUS			SSSCRO	

Case 4:09-cv-01193 Document 343-12 Filed in TXSD on 04/04/12 Page 9 of 30

From: Sustala, Dennis R <Dennis.Sustala@bp.com>
Sent: Monday, August 11, 2008 5:43 PM
To: Sustala, Dennis R <Dennis.Sustala@bp.com>; Carlson, Brian H <Brian.Carlson@bp.com>; Angel, Keith F <keith.angel@bp.com>; Oza, Nita <Nita.Oza@bp.com>; Huebel, Ross <Ross.Huebel@bp.com>; Singh, Pramod K <Pramod.Singh@bp.com>; Berger, Ron K (Manatee) <ron.berger@bp.com>; Hughes, John D <john.hughes2@bp.com>; Rayburn, Dean M <Dean.Rayburn@bp.com>; Gutierrez, Daniel <daniel.gutierrez@bp.com>; Roades, Barth L <Barth.Roades@bp.com>; Bish, Steven S <Steven.Bish@bp.com>; Powell, Kevin J <Kevin.Powell@bp.com>; Schutte, Todd M <Todd.Schutte@bp.com>
Subject: RE: DC113, OCSG 15607, POD Replacement Update /Extension Request for Continuous Annulus Monitoring

Reminder - our deadline to address the AMV issue at DC113 is Thursday of this week on - August 14, 2008

From: Sustala, Dennis R
Sent: Wednesday, July 30, 2008 6:22 PM
To: Carlson, Brian H; Angel, Keith F; Oza, Nita; Huebel, Ross ; Singh, Pramod K; Berger, Ron K (Manatee); Hughes, John D; Rayburn, Dean M; Gutierrez, Daniel; Roades, Barth L; Bish, Steven S; Powell, Kevin J; Schutte, Todd M
Subject: FW: DC113, OCSG 15607, POD Replacement Update /Extension Request for Continuous Annulus Monitoring

Reminder, our deadline to address the AMV issue at DC113 is currently August 14, 2008.

From: Wilson, Amy [mailto:Amy.Wilson@mms.gov]
Sent: Tuesday, July 15, 2008 8:28 AM
To: Sustala, Dennis R
Subject: RE: DC113, OCSG 15607, POD Replacement Update /Extension Request for Continuous Annulus Monitoring

Dennis,

Approval granted until August 14, 2008. Please notify this office when repairs are complete.

Thanks,

Amy Wilson
Production Engineer
MMS Houma District

From: Sustala, Dennis R [mailto:Dennis.Sustala@bp.com]
Sent: Monday, July 14, 2008 3:26 PM
To: Wilson, Amy
Cc: Carlson, Brian H; Angel, Keith F; Oza, Nita; Huebel, Ross ; Singh, Pramod K; Park, Virginia; Berger, Ron K (Manatee); Hughes, John D; Rayburn, Dean M; Grant, James R; Gutierrez, Daniel; Roades, Barth L; Powell, Kevin J
Subject: RE: DC113, OCSG 15607, POD Replacement Update /Extension Request for Continuous Annulus Monitoring

Ms. Wilson,

Replacement of the DC113 control pod was completed on July 11, 2008, and tentatively confirms that hydraulic actuator

seals of the AMV (Annulus Master Valve) have been compromised. The leak path is internal to the valve actuator with hydraulic fluid leaking from the high pressure side of the actuator piston to the low pressure return circuit. The hydraulic leak occurs only when the valve in the open position with the actuator fully energized. The AMV remains operational at this time with no compromise to emergency control and/or pressure isolation capabilities. The hydraulic leak is internal to the valve actuator with no compromise to any hydrocarbon pressure containing barriers.

To address this control issue, the BP intervention team intends to utilize an external subsea actuator (installed via ROV) to override the existing AMV actuator. The intent of the program will be to integrate the actuator into the existing control system of the subsea well. The modified configuration will utilize spare hydraulic functions in the Atlantis DC113 subsea control module to perform required valve operations. The intent of the system will be to maintain full hydraulic control of the AMV valve with seamless integration into existing surface controls. The system will maintain all control capabilities including emergency and fail safe operations.

We expect approximately four weeks will be needed to develop, fabricate, test, and install the proposed system. We therefore request an extension of the waiver from continuous annulus monitoring and to continue well monitoring at 3-hr intervals until the proposed substitute system is installed or until August 14, 2008, whichever occurs first.

Dennis Sustala
Atlantis Regulatory Compliance Coordinator
BP Exploration & Production Inc.
200 Westlake Park Blvd.
Houston, Tx. 77079
281-366-0898 phone

281-366-0900 fax

"CONFIDENTIALITY NOTICE: This message is intended only for the use of the individual or entity to which it is addressed and may contain information that is confidential. If you have received this message in error, please notify the sender immediately and delete the E-mail and any attachments from your computer and files. Thank you."

From: Sustala, Dennis R
Sent: Thursday, July 10, 2008 10:07 AM
To: 'Wilson, Amy'; Domangue, Bryan
Cc: Carlson, Brian H; Angel, Keith F; Oza, Nita; Huebel, Ross ; Singh, Pramod K; Park, Virginia; Berger, Ron K (Manatee); Hughes, John D; Rayburn, Dean M; Grant, James R
Subject: RE: DC113, OCSG 15607, Expected Repair Schedule

Amy,

I wanted to inform you that we have just installed the new control pod on DC113, OCSG 15607. We will conduct diagnostics once the well has been re-commissioned to ensure that we have fixed the leak by changing out the pod. I'll send you another email once we have reestablished continuous monitoring in this well.

Dennis Sustala
Atlantis Regulatory Compliance Coordinator
BP Exploration & Production Inc.
200 Westlake Park Blvd.
Houston, Tx. 77079
281-366-0898 phone

281-366-0900 fax

"CONFIDENTIALITY NOTICE: This message is intended only for the use of the individual or entity to which it is addressed and may contain information that is confidential. If you have received this message in error, please notify the sender immediately and delete the E-mail and any attachments from your computer and files. Thank you."

From: Wilson, Amy [mailto:Amy.Wilson@mms.gov]
Sent: Tuesday, June 24, 2008 8:44 AM
To: Sustala, Dennis R
Cc: Domangue, Bryan
Subject: RE: DC113, OCSG 15607, Expected Repair Schedule

Dennis,

Approval granted until 7/14/08. Please notify this office when repairs are complete.

Thanks,

Amy Wilson
Production Engineer
MMS Houma District

From: Sustala, Dennis R [mailto:Dennis.Sustala@bp.com]
Sent: Monday, June 23, 2008 4:13 PM
To: Wilson, Amy
Subject: RE: DC113, OCSG 15607, Expected Repair Schedule

Confirmed:

We will initially monitor the well every 30 minutes during warm-up. Once that warm-up has been completed, we have been directed to monitor the well every 3 hrs until repairs are completed.

We therefore request approval to monitor the annulus at least every three hours until repairs are complete, or until July 14, 2008, whichever occurs first.

Dennis Sustala
Atlantis Regulatory Compliance Coordinator
BP Exploration & Production Inc.
200 Westlake Park Blvd.
Houston, Tx. 77079
281-366-0898 phone

281-366-0900 fax

"CONFIDENTIALITY NOTICE: This message is intended only for the use of the individual or entity to which it is addressed and may contain information that is confidential. If you have received this message in error, please notify the sender immediately and delete the E-mail and any attachments from your computer and files. Thank you."

From: Wilson, Amy [mailto:Amy.Wilson@mms.gov]
Sent: Monday, June 23, 2008 1:56 PM
To: Sustala, Dennis R; Coco, Benjamin; Domangue, Bryan
Cc: Carlson, Brian H; Huebel, Ross ; Singh, Pramod K; Angel, Keith F; Park, Virginia; Berger, Ron K (Manatee); Hughes, John D; Rayburn, Dean M; Grant, James R

Subject: RE: DC113, OCSG 15607, Expected Repair Schedule

Dennis,

Are you asking approval to monitor the annulus every three hours for a period of three weeks?

Thanks,

Amy Wilson
Production Engineer
MMS Houma District

From: Sustala, Dennis R [mailto:Dennis.Sustala@bp.com]
Sent: Monday, June 23, 2008 11:12 AM
To: Coco, Benjamin; Wilson, Amy; Domangue, Bryan
Cc: Carlson, Brian H; Huebel, Ross ; Singh, Pramod K; Angel, Keith F; Park, Virginia; Berger, Ron K (Manatee); Hughes, John D; Rayburn, Dean M; Grant, James R
Subject: RE: DC113, OCSG 15607, Expected Repair Schedule

We currently expect to acquire parts and then to repair/ replace the faulty control pod equipment within the next two to three weeks. We will notify your office when we have completed this activity.

Dennis Sustala
Atlantis Regulatory Compliance Coordinator
BP Exploration & Production Inc.
200 Westlake Park Blvd.
Houston, Tx. 77079
281-366-0898 phone

281-366-0900 fax

"CONFIDENTIALITY NOTICE: This message is intended only for the use of the individual or entity to which it is addressed and may contain information that is confidential. If you have received this message in error, please notify the sender immediately and delete the E-mail and any attachments from your computer and files. Thank you."

From: Coco, Benjamin [mailto:Benjamin.Coco@mms.gov]
Sent: Sunday, June 22, 2008 4:14 PM
To: Sustala, Dennis R; Wilson, Amy; Domangue, Bryan
Cc: Carlson, Brian H; Huebel, Ross ; Singh, Pramod K; Angel, Keith F; Park, Virginia; Berger, Ron K (Manatee); Hughes, John D; Rayburn, Dean M; Grant, James R
Subject: RE: DC113, OCSG 15607, Departure from Continuous Monitoring

Approval granted to bring the well on-line as described below with the condition that once the tubing temperature has stabilized the AMV is opened at least once every three hours rather than the requested 12 hours.

BP is to follow up with Amy Wilson no later than noon on Monday, June 23, 2008. Be prepared to discuss the measures that will be needed to return the well to continuous monitoring for the production annulus.

Benjamin J. Coco

MMS Houma District
Drilling Engineer
Office Phone 985-853-5903
After Hours Phone 985-688-6050

From: Sustala, Dennis R [mailto:Dennis.Sustala@bp.com]
Sent: Sunday, June 22, 2008 3:46 PM
To: Coco, Benjamin; Wilson, Amy; Domangue, Bryan
Cc: Carlson, Brian H; Huebel, Ross ; Singh, Pramod K; Angel, Keith F; Park, Virginia; Berger, Ron K (Manatee); Hughes, John D; Rayburn, Dean M; Grant, James R
Subject: DC113, OCSG 15607, Departure from Continuous Monitoring

We notified your office on June 20, 2008, that we observed a faulty Annulus Master Valve (AMV) on the GC743, DC113, OCSG 15607. The purpose of this email is to update our previous report and to request a Departure from the requirement for continuous production annulus monitoring of this subsea well.

We completed DC113 AMV leak diagnostics that included ROV observations last night. The ROV observed HW-540 (water based) hydraulic fluid leaking from the DC113 subsea control pod while the DC113 AMV was open. It now appears that the Directional Control Valve (DCV) in the control pod that controls the flow of hydraulic fluid to the DC113 AMV is leaking hydraulic fluid when the DC113 AMV is open.

We request approval to operate the well according to the following procedure:

- Currently, the well is shut in, the AMV is closed and hydraulic fluid is not leaking.
- Restart the well (+/- 5 pm June 22nd) and periodically open the AMV in order to monitor 'A' annulus pressure.
- During well startup, open the AMV at least once every 30 minutes while the flowing tubing temperature is increasing (<120 degrees F), then open the AMV at least once every 12 hours once the flowing tubing temperature has stabilized (≥120 degrees F).
- All safety devices controls and safety valves have been tested and operate as designed.

The maximum hydraulic fluid to be discharged is estimated at 20 gallons per day as the well heats up. Once the well is hot, we are expecting about 0.5 gallons per day. This volume is far below the reportable quantity of the NRC (5000 gallons/day).

We propose this temporary operation method pending opportunity to repair/ replace the faulty subsea control pod.

Dennis Sustala
Atlantis Regulatory Compliance Coordinator
BP Exploration & Production Inc.
200 Westlake Park Blvd.
Houston, Tx. 77079
281-366-0898 phone

281-366-0900 fax

"CONFIDENTIALITY NOTICE: This message is intended only for the use of the individual or entity to which it is addressed and may contain information that is confidential. If you have received this message in error, please notify the sender immediately and delete the E-mail and any attachments from your computer and files. Thank you."

bp

MOC Reviews ?

! Comments have been added for this MOC

MOC #: MOC-GC787-08-0180
Date Initiated: 8/11/2008
Initiated By: Ragan, Frank

Reviews Required	Responsible Person	Disposition		Completed By
Technical Review	Cotton, Steve	⦿ Agree	○ Disagree	Cotton, Steve
O&M Review	Atlantis Maintenance	⦿ Agree	○ Disagree	Snyder, Dave
HSE Review	Atlantis Offshore HSE	⦿ Agree	○ Disagree	Bertrand, Chris
Design Safety Review	Atlantis Process Revi	⦿ Agree	○ Disagree	Carter, Donnie
Weight Review	Atlantis Weight Revie	⦿ Agree	○ Disagree	Drennan, Doug
		○ Agree	○ Disagree	
		○ Agree	○ Disagree	
		○ Agree	○ Disagree	
		○ Agree	○ Disagree	
		○ Agree	○ Disagree	
Technical Authority Review (as needed)		○ Agree	○ Disagree	
Engineering Authority Review (as needed)		○ Agree	○ Disagree	

Does this change require a deviation from Technical Practices or Industry Standards ? ○Yes ⦿No

Does this change require Technical Authority Review ? ○Yes ⦿No

Does this change require Engineering Authority Review ? ○Yes ⦿No

Does this change require any weight to be added or removed ? ○Yes ⦿No ?

bp

Management of Change

MOC #: MOC-GC787-08-0180
Date Initiated: 6/11/2008
Initiated By: Ragan, Frank

MOC Requirements/Responsibilities:

Proceed with MOC Process ? (•) Yes ( ) No ( ) Request Clarification

PSSR Responsibility: Atlantis Operations Engineer

Startup to be Authorized by: Atlantis OIM

Work Package:

Eng. Work Package Target Date:
Onshore contact:
Offshore contact:
Pay Key:
Work Order # (If required):
Cost Code(AFE)/WBS Element:
Vendor/Supplier Info:
Purchase Order #:

Hazard Assessment:

Hazard Assessment Type: What If

[ ] Hazard Assessment Attached

Hazard Assessment Results:

Hazard Assessment results should be either attached or entered below

The loadshed system is designed to reduce the likelyhood of a main pwer outage on the platform. This change has been identified based on an event that eluded the detection events currently in the ELS system. By triggering a loadshed event based on a fuel valve failure, main power should remain online.

Regardless of the success or failure of the ELS system, a separate emergency power system exists on the platform and is unaffected by this change.

bp

Management of Change

= Required Field

MOC #: MOC-GC787-08-0180
Date Initiated: 8/11/2008
Initiated By: Ragan, Frank

MOC Type:	Technical	MOC Status:	impl
Facility:	Atlantis	Expected Startup Date:	9/15/2008
System:	Electrical	RFA #:	GC787-0129
Verifier/Coordinator:	Ragan, Frank	Priority:	B (Med)
Shutdown Required:	None	Priority Reason:	Production
MOC Duration:	◉ Permanent ○ Temporary	Emergency Change:	○ Yes ◉ No

Title:

Revisions to ELS System

Scope:

Add the Fuel Gas SDV fault condition to the trigger events for a load shed. This new trigger will monitor the SDV for an OPEN Command and a moving closed position indication (less than 75% to permit 85% partial stroke testing) to indicate that the turbine is likely to lose power and cause a shutdown. Refer to shutdown on June 8, 2008 for a similar event.See attached proposed additions to section 2.3 of the 1440-20-EL-RP-4020 Atlantis Load Shed Design Basis Addendum.

Justification:

This change will slightly increase the number of times the loadshed may incorrectly trigger a compressor or pump shutdown, but that risk is countered by the decrease in the number of black-out events caused by a loss of fuel gas at the turbine skid.

From: Berger, Ron K (Manatee) <ron.berger@bp.com>
Sent: Tuesday, August 12, 2008 8:20 AM
To: Sustala, Dennis R <Dennis.Sustala@BP.com>; Carlson, Brian H <Brian.Carlson@BP.com>; Angel, Keith F <keith.angel@BP.com>; Oza, Nita <Nita.Oza@BP.com>; Huebel, Ross <Ross.Huebel@BP.com>; Singh, Pramod K <Pramod.Singh@BP.com>; Hughes, John D <john.hughes2@BP.com>; Rayburn, Dean M <Dean.Rayburn@BP.com>; Gutierrez, Daniel <daniel.gutierrez@BP.com>; Roades, Barth L <Barth.Roades@BP.com>; Bish, Steven S <Steven.Bish@BP.com>; Powell, Kevin J <Kevin.Powell@BP.com>; Schutte, Todd M <Todd.Schutte@BP.com>
Subject: RE: DC113, OCSG 15607, POD Replacement Update /Extension Request for Continuous Annulus Monitoring

dennis, we need to ask for an extension. we have the hardware procured and tested. however, we still need additional time for the software changes required to interact w the ess. i'm trying to find out how much additional time is required for the software changes and it's related testing. hopefully, i will have it by the end of the day. tentatively, we're looking to extend to end of month. i'll give a firm request at the end of the day.

From: Sustala, Dennis R
Sent: Monday, August 11, 2008 4:43 PM
To: Sustala, Dennis R; Carlson, Brian H; Angel, Keith F; Oza, Nita; Huebel, Ross ; Singh, Pramod K; Berger, Ron K (Manatee); Hughes, John D; Rayburn, Dean M; Gutierrez, Daniel; Roades, Barth L; Bish, Steven S; Powell, Kevin J; Schutte, Todd M
Subject: RE: DC113, OCSG 15607, POD Replacement Update /Extension Request for Continuous Annulus Monitoring

Reminder - our deadline to address the AMV issue at DC113 is Thursday of this week on - August 14, 2008

From: Sustala, Dennis R
Sent: Wednesday, July 30, 2008 6:22 PM
To: Carlson, Brian H; Angel, Keith F; Oza, Nita; Huebel, Ross ; Singh, Pramod K; Berger, Ron K (Manatee); Hughes, John D; Rayburn, Dean M; Gutierrez, Daniel; Roades, Barth L; Bish, Steven S; Powell, Kevin J; Schutte, Todd M
Subject: FW: DC113, OCSG 15607, POD Replacement Update /Extension Request for Continuous Annulus Monitoring

Reminder, our deadline to address the AMV issue at DC113 is currently August 14, 2008.

From: Wilson, Amy [mailto:Amy.Wilson@mms.gov]
Sent: Tuesday, July 15, 2008 8:28 AM
To: Sustala, Dennis R
Subject: RE: DC113, OCSG 15607, POD Replacement Update /Extension Request for Continuous Annulus Monitoring

Dennis,

Approval granted until August 14, 2008. Please notify this office when repairs are complete.

Thanks,

Amy Wilson
Production Engineer
MMS Houma District

From: Sustala, Dennis R [mailto:Dennis.Sustala@bp.com]
Sent: Monday, July 14, 2008 3:26 PM
To: Wilson, Amy
Cc: Carlson, Brian H; Angel, Keith F; Oza, Nita; Huebel, Ross ; Singh, Pramod K; Park, Virginia; Berger, Ron K (Manatee); Hughes, John D; Rayburn, Dean M; Grant, James R; Gutierrez, Daniel; Roades, Barth L; Powell, Kevin J
Subject: RE: DC113, OCSG 15607, POD Replacement Update /Extension Request for Continuous Annulus Monitoring

Ms. Wilson,

Replacement of the DC113 control pod was completed on July 11, 2008, and tentatively confirms that hydraulic actuator seals of the AMV (Annulus Master Valve) have been compromised. The leak path is internal to the valve actuator with hydraulic fluid leaking from the high pressure side of the actuator piston to the low pressure return circuit. The hydraulic leak occurs only when the valve in the open position with the actuator fully energized. The AMV remains operational at this time with no compromise to emergency control and/or pressure isolation capabilities. The hydraulic leak is internal to the valve actuator with no compromise to any hydrocarbon pressure containing barriers.

To address this control issue, the BP intervention team intends to utilize an external subsea actuator (installed via ROV) to override the existing AMV actuator. The intent of the program will be to integrate the actuator into the existing control system of the subsea well. The modified configuration will utilize spare hydraulic functions in the Atlantis DC113 subsea control module to perform required valve operations. The intent of the system will be to maintain full hydraulic control of the AMV valve with seamless integration into existing surface controls. The system will maintain all control capabilities including emergency and fail safe operations.

We expect approximately four weeks will be needed to develop, fabricate, test, and install the proposed system. We therefore request an extension of the waiver from continuous annulus monitoring and to continuie well monitoring at 3-hr intervals until the proposed substitute system is installed or until August 14, 2008, whichever occurs first.

Dennis Sustala
Atlantis Regulatory Compliance Coordinator
BP Exploration & Production Inc.
200 Westlake Park Blvd.
Houston, Tx. 77079
281-366-0898 phone

281-366-0900 fax

"CONFIDENTIALITY NOTICE: This message is intended only for the use of the individual or entity to which it is addressed and may contain information that is confidential. If you have received this message in error, please notify the sender immediately and delete the E-mail and any attachments from your computer and files. Thank you."

From: Sustala, Dennis R
Sent: Thursday, July 10, 2008 10:07 AM
To: 'Wilson, Amy'; Domangue, Bryan
Cc: Carlson, Brian H; Angel, Keith F; Oza, Nita; Huebel, Ross ; Singh, Pramod K; Park, Virginia; Berger, Ron K (Manatee); Hughes, John D; Rayburn, Dean M; Grant, James R
Subject: RE: DC113, OCSG 15607, Expected Repair Schedule

Amy,

I wanted to inform you that we have just installed the new control pod on DC113, OCSG 15607. We will conduct diagnostics once the well has been re-commissioned to ensure that we have fixed the leak by changing out the pod. I'll send you another email once we have reestablished continuous monitoring in this well.

Dennis Sustala

Atlantis Regulatory Compliance Coordinator
BP Exploration & Production Inc.
200 Westlake Park Blvd.
Houston, Tx. 77079
281-366-0898 phone
713 865 6824 cell
281-366-0900 fax

"CONFIDENTIALITY NOTICE: This message is intended only for the use of the individual or entity to which it is addressed and may contain information that is confidential. If you have received this message in error, please notify the sender immediately and delete the E-mail and any attachments from your computer and files. Thank you."

From: Wilson, Amy [mailto:Amy.Wilson@mms.gov]
Sent: Tuesday, June 24, 2008 8:44 AM
To: Sustala, Dennis R
Cc: Domangue, Bryan
Subject: RE: DC113, OCSG 15607, Expected Repair Schedule

Dennis,

Approval granted until 7/14/08. Please notify this office when repairs are complete.

Thanks,

Amy Wilson
Production Engineer
MMS Houma District

From: Sustala, Dennis R [mailto:Dennis.Sustala@bp.com]
Sent: Monday, June 23, 2008 4:13 PM
To: Wilson, Amy
Subject: RE: DC113, OCSG 15607, Expected Repair Schedule

Confirmed:

We will initially monitor the well every 30 minutes during warm-up. Once that warm-up has been completed, we have been directed to monitor the well every 3 hrs until repairs are completed.

We therefore request approval to monitor the annulus at least every three hours until repairs are complete, or until July 14, 2008, whichever occurs first.

Dennis Sustala
Atlantis Regulatory Compliance Coordinator
BP Exploration & Production Inc.
200 Westlake Park Blvd.
Houston, Tx. 77079
281-366-0898 phone

281-366-0900 fax

"CONFIDENTIALITY NOTICE: This message is intended only for the use of the individual or entity to which it is addressed and may contain information that is confidential. If you have received this message in error, please notify the sender immediately and delete the E-mail and any attachments from your computer and files. Thank you."

From: Wilson, Amy [mailto:Amy.Wilson@mms.gov]
Sent: Monday, June 23, 2008 1:56 PM
To: Sustala, Dennis R; Coco, Benjamin; Domangue, Bryan
Cc: Carlson, Brian H; Huebel, Ross ; Singh, Pramod K; Angel, Keith F; Park, Virginia; Berger, Ron K (Manatee); Hughes, John D; Rayburn, Dean M; Grant, James R
Subject: RE: DC113, OCSG 15607, Expected Repair Schedule

Dennis,

Are you asking approval to monitor the annulus every three hours for a period of three weeks?

Thanks,

Amy Wilson
Production Engineer
MMS Houma District

From: Sustala, Dennis R [mailto:Dennis.Sustala@bp.com]
Sent: Monday, June 23, 2008 11:12 AM
To: Coco, Benjamin; Wilson, Amy; Domangue, Bryan
Cc: Carlson, Brian H; Huebel, Ross ; Singh, Pramod K; Angel, Keith F; Park, Virginia; Berger, Ron K (Manatee); Hughes, John D; Rayburn, Dean M; Grant, James R
Subject: RE: DC113, OCSG 15607, Expected Repair Schedule

We currently expect to acquire parts and then to repair/ replace the faulty control pod equipment within the next two to three weeks. We will notify your office when we have completed this activity.

Dennis Sustala
Atlantis Regulatory Compliance Coordinator
BP Exploration & Production Inc.
200 Westlake Park Blvd.
Houston, Tx. 77079
281-366-0898 phone

281-366-0900 fax

"CONFIDENTIALITY NOTICE: This message is intended only for the use of the individual or entity to which it is addressed and may contain information that is confidential. If you have received this message in error, please notify the sender immediately and delete the E-mail and any attachments from your computer and files. Thank you."

From: Coco, Benjamin [mailto:Benjamin.Coco@mms.gov]
Sent: Sunday, June 22, 2008 4:14 PM
To: Sustala, Dennis R; Wilson, Amy; Domangue, Bryan
Cc: Carlson, Brian H; Huebel, Ross ; Singh, Pramod K; Angel, Keith F; Park, Virginia; Berger, Ron K (Manatee); Hughes, John D; Rayburn, Dean M; Grant, James R

Subject: RE: DC113, OCSG 15607, Departure from Continuous Monitoring

Approval granted to bring the well on-line as described below with the condition that once the tubing temperature has stabilized the AMV is opened at least once every three hours rather than the requested 12 hours.

BP is to follow up with Amy Wilson no later than noon on Monday, June 23, 2008. Be prepared to discuss the measures that will be needed to return the well to continuous monitoring for the production annulus.

Benjamin J. Coco

MMS Houma District
Drilling Engineer
Office Phone 985-853-5903
After Hours Phone

From: Sustala, Dennis R [mailto:Dennis.Sustala@bp.com]
Sent: Sunday, June 22, 2008 3:46 PM
To: Coco, Benjamin; Wilson, Amy; Domangue, Bryan
Cc: Carlson, Brian H; Huebel, Ross ; Singh, Pramod K; Angel, Keith F; Park, Virginia; Berger, Ron K (Manatee); Hughes, John D; Rayburn, Dean M; Grant, James R
Subject: DC113, OCSG 15607, Departure from Continuous Monitoring

We notified your office on June 20, 2008, that we observed a faulty Annulus Master Valve (AMV) on the GC743, DC113, OCSG 15607. The purpose of this email is to update our previous report and to request a Departure from the requirement for continuous production annulus monitoring of this subsea well.

We completed DC113 AMV leak diagnostics that included ROV observations last night. The ROV observed HW-540 (water based) hydraulic fluid leaking from the DC113 subsea control pod while the DC113 AMV was open. It now appears that the Directional Control Valve (DCV) in the control pod that controls the flow of hydraulic fluid to the DC113 AMV is leaking hydraulic fluid when the DC113 AMV is open.

We request approval to operate the well according to the following procedure:

- Currently, the well is shut in, the AMV is closed and hydraulic fluid is not leaking.
- Restart the well (+/- 5 pm June 22nd) and periodically open the AMV in order to monitor 'A' annulus pressure.
- During well startup, open the AMV at least once every 30 minutes while the flowing tubing temperature is increasing (<120 degrees F), then open the AMV at least once every 12 hours once the flowing tubing temperature has stabilized (≥120 degrees F).
- All safety devices controls and safety valves have been tested and operate as designed.

The maximum hydraulic fluid to be discharged is estimated at 20 gallons per day as the well heats up. Once the well is hot, we are expecting about 0.5 gallons per day. This volume is far below the reportable quantity of the NRC (5000 gallons/day).

We propose this temporary operation method pending opportunity to repair/ replace the faulty subsea control pod.

Dennis Sustala
Atlantis Regulatory Compliance Coordinator
BP Exploration & Production Inc.

200 Westlake Park Blvd.
Houston, Tx. 77079
281-366-0898 phone
713 865 6824 cell
281-366-0900 fax

"CONFIDENTIALITY NOTICE: This message is intended only for the use of the individual or entity to which it is addressed and may contain information that is confidential. If you have received this message in error, please notify the sender immediately and delete the E-mail and any attachments from your computer and files. Thank you."

From: Sustala, Dennis R <Dennis.Sustala@bp.com>
Sent: Wednesday, August 13, 2008 12:43 PM
To: Wilson, Amy <Amy.Wilson@mms.gov>
Cc: Berger, Ron K (Manatee) <ron.berger@bp.com>; Carlson, Brian H <Brian.Carlson@bp.com>; Angel, Keith F <keith.angel@bp.com>; Oza, Nita <Nita.Oza@bp.com>; Huebel, Ross <Ross.Huebel@bp.com>; Singh, Pramod K <Pramod.Singh@bp.com>; Hughes, John D <john.hughes2@bp.com>; Rayburn, Dean M <Dean.Rayburn@bp.com>; Gutierrez, Daniel <daniel.gutierrez@bp.com>; Roades, Barth L <Barth.Roades@bp.com>; Bish, Steven S <Steven.Bish@bp.com>; Powell, Kevin J <Kevin.Powell@bp.com>; Schutte, Todd M <Todd.Schutte@bp.com>; Broman, William H(HOU) <william.broman@bp.com>
Subject: RE: DC113, OCSG 15607, AMV Repair Work Update /Extension Request

This email documents our status concerning the AMV repair work at DC113, OCSG 15607, and proposes a further waiver extension.

- The external actuator necessary to return the DC113 AMV to functionality has been manufactured and successfully tested on an Atlantis tree, using an HPU (i.e. no control system changes were included).

- The changes to the software necessary for operation of this actuator from the HMI or via the ESS (emergency shutdown system) are scheduled to be completed today (13-Aug).

We request an additional three weeks to complete and test all the scope changes necessary for the retrofit of the external actuator on the DC113 AMV. We expect to complete the total scope of work by September 3, 2008. We further request a waiver from continuous annulus monitoring and to continue monitoring the well at 3-hr intervals if needed during this period.

Below are the activities that are planned over the next three weeks, beginning August 13, 2008.

- The above software changes affect up to four wells, with two SEMMs each. Each of these control paths will be tested to ensure the existing operability is not corrupted. In addition, the change affecting the AMV on DC113 will also be performed. This testing is scheduled to be complete by August 20, 2008.

- The 7 days following completion of the testing are reserved for the subsea intervention on the tree, load of new software into the control system on the PQ, and offshore commissioning (which includes testing). This will bring the schedule to approximately August 27, 2008.

- An additional week is included to make an allowance for potential non-productive time as a result of SIMOPs with the DDII, and PQ. This would bring the final extension / repair completion date to September 3, 2008.

Dennis Sustala
Atlantis Regulatory Compliance Coordinator
BP Exploration & Production Inc.
200 Westlake Park Blvd.
Houston, TX 77079
281-366-0898 phone

281-366-0900 fax

"CONFIDENTIALITY NOTICE: This message is intended only for the use of the individual or entity to which it is addressed and may contain information that is confidential. If you have received this message in error, please notify the sender immediately and delete the E-mail and any attachments from your computer and files. Thank you."

From: Wilson, Amy [mailto:Amy.Wilson@mms.gov]
Sent: Tuesday, July 15, 2008 8:28 AM
To: Sustala, Dennis R
Subject: RE: DC113, OCSG 15607, POD Replacement Update /Extension Request for Continuous Annulus Monitoring

Dennis,

Approval granted until August 14, 2008. Please notify this office when repairs are complete.

Thanks,

Amy Wilson
Production Engineer
MMS Houma District

From: Sustala, Dennis R [mailto:Dennis.Sustala@bp.com]
Sent: Monday, July 14, 2008 3:26 PM
To: Wilson, Amy
Cc: Carlson, Brian H; Angel, Keith F; Oza, Nita; Huebel, Ross ; Singh, Pramod K; Park, Virginia; Berger, Ron K (Manatee); Hughes, John D; Rayburn, Dean M; Grant, James R; Gutierrez, Daniel; Roades, Barth L; Powell, Kevin J
Subject: RE: DC113, OCSG 15607, POD Replacement Update /Extension Request for Continuous Annulus Monitoring

Ms. Wilson,

Replacement of the DC113 control pod was completed on July 11, 2008, and tentatively confirms that hydraulic actuator seals of the AMV (Annulus Master Valve) have been compromised. The leak path is internal to the valve actuator with hydraulic fluid leaking from the high pressure side of the actuator piston to the low pressure return circuit. The hydraulic leak occurs only when the valve in the open position with the actuator fully energized. The AMV remains operational at this time with no compromise to emergency control and/or pressure isolation capabilities. The hydraulic leak is internal to the valve actuator with no compromise to any hydrocarbon pressure containing barriers.

To address this control issue, the BP intervention team intends to utilize an external subsea actuator (installed via ROV) to override the existing AMV actuator. The intent of the program will be to integrate the actuator into the existing control system of the subsea well. The modified configuration will utilize spare hydraulic functions in the Atlantis DC113 subsea control module to perform required valve operations. The intent of the system will be to maintain full hydraulic control of the AMV valve with seamless integration into existing surface controls. The system will maintain all control capabilities including emergency and fail safe operations.

We expect approximately four weeks will be needed to develop, fabricate, test, and install the proposed system. We therefore request an extension of the waiver from continuous annulus monitoring and to continuie well monitoring at 3-hr intervals until the proposed substitute system is installed or until August 14, 2008, whichever occurs first.

Dennis Sustala
Atlantis Regulatory Compliance Coordinator
BP Exploration & Production Inc.
200 Westlake Park Blvd.
Houston, Tx. 77079
281-366-0898 phone

281-366-0900 fax

"CONFIDENTIALITY NOTICE: This message is intended only for the use of the individual or entity to which it is addressed and may contain information that is confidential. If you have received this message in error, please notify the sender immediately and delete the E-mail and any attachments from your computer and files. Thank you."

From: Sustala, Dennis R
Sent: Thursday, July 10, 2008 10:07 AM
To: 'Wilson, Amy'; Domangue, Bryan
Cc: Carlson, Brian H; Angel, Keith F; Oza, Nita; Huebel, Ross ; Singh, Pramod K; Park, Virginia; Berger, Ron K (Manatee); Hughes, John D; Rayburn, Dean M; Grant, James R
Subject: RE: DC113, OCSG 15607, Expected Repair Schedule

Amy,

I wanted to inform you that we have just installed the new control pod on DC113, OCSG 15607. We will conduct diagnostics once the well has been re-commissioned to ensure that we have fixed the leak by changing out the pod. I'll send you another email once we have reestablished continuous monitoring in this well.

Dennis Sustala
Atlantis Regulatory Compliance Coordinator
BP Exploration & Production Inc.
200 Westlake Park Blvd.
Houston, Tx. 77079
281-366-0898 phone

281-366-0900 fax

"CONFIDENTIALITY NOTICE: This message is intended only for the use of the individual or entity to which it is addressed and may contain information that is confidential. If you have received this message in error, please notify the sender immediately and delete the E-mail and any attachments from your computer and files. Thank you."

From: Wilson, Amy [mailto:Amy.Wilson@mms.gov]
Sent: Tuesday, June 24, 2008 8:44 AM
To: Sustala, Dennis R
Cc: Domangue, Bryan
Subject: RE: DC113, OCSG 15607, Expected Repair Schedule

Dennis,

Approval granted until 7/14/08. Please notify this office when repairs are complete.

Thanks,

Amy Wilson
Production Engineer
MMS Houma District

From: Sustala, Dennis R [mailto:Dennis.Sustala@bp.com]
Sent: Monday, June 23, 2008 4:13 PM

Exhibit 107
Part 7

To: Wilson, Amy
Subject: RE: DC113, OCSG 15607, Expected Repair Schedule

Confirmed:

We will initially monitor the well every 30 minutes during warm-up. Once that warm-up has been completed, we have been directed to monitor the well every 3 hrs until repairs are completed.

We therefore request approval to monitor the annulus at least every three hours until repairs are complete, or until July 14, 2008, whichever occurs first.

Dennis Sustala
Atlantis Regulatory Compliance Coordinator
BP Exploration & Production Inc.
200 Westlake Park Blvd.
Houston, Tx. 77079
281-366-0898 phone

281-366-0900 fax

"CONFIDENTIALITY NOTICE: This message is intended only for the use of the individual or entity to which it is addressed and may contain information that is confidential. If you have received this message in error, please notify the sender immediately and delete the E-mail and any attachments from your computer and files. Thank you."

From: Wilson, Amy [mailto:Amy.Wilson@mms.gov]
Sent: Monday, June 23, 2008 1:56 PM
To: Sustala, Dennis R; Coco, Benjamin; Domangue, Bryan
Cc: Carlson, Brian H; Huebel, Ross ; Singh, Pramod K; Angel, Keith F; Park, Virginia; Berger, Ron K (Manatee); Hughes, John D; Rayburn, Dean M; Grant, James R
Subject: RE: DC113, OCSG 15607, Expected Repair Schedule

Dennis,

Are you asking approval to monitor the annulus every three hours for a period of three weeks?

Thanks,

Amy Wilson
Production Engineer
MMS Houma District

From: Sustala, Dennis R [mailto:Dennis.Sustala@bp.com]
Sent: Monday, June 23, 2008 11:12 AM
To: Coco, Benjamin; Wilson, Amy; Domangue, Bryan
Cc: Carlson, Brian H; Huebel, Ross ; Singh, Pramod K; Angel, Keith F; Park, Virginia; Berger, Ron K (Manatee); Hughes, John D; Rayburn, Dean M; Grant, James R
Subject: RE: DC113, OCSG 15607, Expected Repair Schedule

We currently expect to acquire parts and then to repair/ replace the faulty control pod equipment within the next two to three weeks. We will notify your office when we have completed this activity.

Dennis Sustala
Atlantis Regulatory Compliance Coordinator
BP Exploration & Production Inc.
200 Westlake Park Blvd.
Houston, Tx. 77079
281-366-0898 phone

281-366-0900 fax

"CONFIDENTIALITY NOTICE: This message is intended only for the use of the individual or entity to which it is addressed and may contain information that is confidential. If you have received this message in error, please notify the sender immediately and delete the E-mail and any attachments from your computer and files. Thank you."

From: Coco, Benjamin [mailto:Benjamin.Coco@mms.gov]
Sent: Sunday, June 22, 2008 4:14 PM
To: Sustala, Dennis R; Wilson, Amy; Domangue, Bryan
Cc: Carlson, Brian H; Huebel, Ross ; Singh, Pramod K; Angel, Keith F; Park, Virginia; Berger, Ron K (Manatee); Hughes, John D; Rayburn, Dean M; Grant, James R
Subject: RE: DC113, OCSG 15607, Departure from Continuous Monitoring

Approval granted to bring the well on-line as described below with the condition that once the tubing temperature has stabilized the AMV is opened at least once every three hours rather than the requested 12 hours.

BP is to follow up with Amy Wilson no later than noon on Monday, June 23, 2008. Be prepared to discuss the measures that will be needed to return the well to continuous monitoring for the production annulus.

Benjamin J. Coco
MMS Houma District
Drilling Engineer
Office Phone 985-853-5903
After Hours Phone

From: Sustala, Dennis R [mailto:Dennis.Sustala@bp.com]
Sent: Sunday, June 22, 2008 3:46 PM
To: Coco, Benjamin; Wilson, Amy; Domangue, Bryan
Cc: Carlson, Brian H; Huebel, Ross ; Singh, Pramod K; Angel, Keith F; Park, Virginia; Berger, Ron K (Manatee); Hughes, John D; Rayburn, Dean M; Grant, James R
Subject: DC113, OCSG 15607, Departure from Continuous Monitoring

We notified your office on June 20, 2008, that we observed a faulty Annulus Master Valve (AMV) on the GC743, DC113, OCSG 15607. The purpose of this email is to update our previous report and to request a Departure from the requirement for continuous production annulus monitoring of this subsea well.

We completed DC113 AMV leak diagnostics that included ROV observations last night. The ROV observed HW-540 (water based) hydraulic fluid leaking from the DC113 subsea control pod while the DC113 AMV was open. It now appears that the Directional Control Valve (DCV) in the control pod that controls the flow of hydraulic fluid to the DC113 AMV is leaking hydraulic fluid when the DC113

AMV is open.

We request approval to operate the well according to the following procedure:

- Currently, the well is shut in, the AMV is closed and hydraulic fluid is not leaking.
- Restart the well (+/- 5 pm June 22nd) and periodically open the AMV in order to monitor 'A' annulus pressure.
- During well startup, open the AMV at least once every 30 minutes while the flowing tubing temperature is increasing (<120 degrees F), then open the AMV at least once every 12 hours once the flowing tubing temperature has stabilized (≥120 degrees F).
- All safety devices controls and safety valves have been tested and operate as designed.

The maximum hydraulic fluid to be discharged is estimated at 20 gallons per day as the well heats up. Once the well is hot, we are expecting about 0.5 gallons per day. This volume is far below the reportable quantity of the NRC (5000 gallons/day).

We propose this temporary operation method pending opportunity to repair/ replace the faulty subsea control pod.

Dennis Sustala
Atlantis Regulatory Compliance Coordinator
BP Exploration & Production Inc.
200 Westlake Park Blvd.
Houston, Tx. 77079
281-366-0898 phone

281-366-0900 fax

"CONFIDENTIALITY NOTICE: This message is intended only for the use of the individual or entity to which it is addressed and may contain information that is confidential. If you have received this message in error, please notify the sender immediately and delete the E-mail and any attachments from your computer and files. Thank you."

From: Hartley, Jamie <Jamie.Hartley@fmcti.com>
Sent: Wednesday, August 13, 2008 2:19 PM
To: Berger, Ron K (Manatee) <ron.berger@bp.com>
Cc: Broman, William H(HOU) <william.broman@bp.com>; Hughes, John D <john.hughes2@bp.com>; Oza, Nita <Nita.Oza@bp.com>; GEORGE.BRADLEY@fmcti.com; Robert.Noe@fmcti.com
Subject: RE: DC122 Shut-in Root Cause
Attach: Product Notification (RAM Chip).pdf

Ron,

This topic came up in our meeting yesterday afternoon on the TPU boards, not sure if you had joined us at that point. Bottom line is there are no SCMs on Atlantis that are Subsea that contain a ram chip from the batch known to exhibit these problems. There are two SCMs on Atlantis that do have the suspect RAM chips, these SCMs are in process of being reworked. Attached is a copy of the Atlantis notification which contains the specifics on the two SCMs in question.

Regards,

Jamie Hartley
Customer Support Engineering Manager
E: jamie.hartley@fmcti.com | P: 281 591 8009

From: Berger, Ron K (Manatee) [mailto:ron.berger@bp.com]
Sent: Wednesday, August 13, 2008 12:50 PM
To: Hartley, Jamie
Cc: william.broman@bp.com; john.hughes2@bp.com; Nita.Oza@bp.com
Subject: FW: DC122 Shut-in Root Cause

Jamie,

I received this letter internally from the nakika asset. It discusses problems with CPU Ram chips in SEMs that can manifest as "unwanted valve movements". Is possible that Atlantis is affected by the same issue or has FMC already determined that all the Atlantis SCM CPU Ram chips are unaffected by this recall?

Ron

From: Chan, Roy
Sent: Wednesday, August 13, 2008 10:32 AM
To: Berger, Ron K (Manatee)
Subject: RE: DC122 Shut-in Root Cause

Sorry for the delay. Here is the letter from FMC.

<<BP Nakika Product Notification - SEM_CPU_RAM Chip Error May 142008.pdf>>
Roy
Office: +1 281 366-1131
Mobile:

From: Berger, Ron K (Manatee)
Sent: Wednesday, August 13, 2008 10:27 AM
To: Chan, Roy

Subject: RE: DC122 Shut-in Root Cause

Can you send me that letter we spoke about?

From: Chan, Roy
Sent: Tuesday, August 12, 2008 9:19 AM
To: Berger, Ron K (Manatee); Fleming, Ray H
Cc: Turner, Dave
Subject: RE: DC122 Shut-in Root Cause

Ron,

The first thing come to my mind is faulty SEM CPU RAM chip. I discuss with you more on this in the FMC meeting this afternoon.

Roy
Office: +1 281 366-1131

From: Berger, Ron K (Manatee)
Sent: Monday, August 11, 2008 4:37 PM
To: Chan, Roy; Fleming, Ray H
Cc: Turner, Dave
Subject: FW: DC122 Shut-in Root Cause

FYI. Another issue with controls that seems to be different from the topside boards.

From: Berger, Ron K (Manatee)
Sent: Monday, August 11, 2008 9:50 AM
To: Hartley, Jamie (FMC); Leal, JJ (FMC); Furneaux, Dale (FMC); Bristol, Erik
Cc: Young, Brian J (Brian.J.Young@BP.com); Whitehead, David K (Technip) (whitdz@BP.com); william.broman@bp.com
Subject: DC122 Shut-in Root Cause

Gentleman,

This note is follow-up to our discussions on 122 that began yesterday. I'm still waiting on when FMC service can be made available to help troubleshoot the situation at westlake via smart-tool. A summary of the situation is below.

<< Message: DC122 Shut in >> << Message: RE: DC122 Shut in >>

- Morning of 10-aug, we experienced an unplanned subsea well shut-in on dc122, not associated with an automatic safety trip topside.
- At the time of the shut-in, abnormal voltages and lost comms were being experienced down line A.
- Troubleshooting done by Josh on the pq, leads them to believe that SCU prosoft boards stayed in communication with the SBC in the SPCU during this event.
- LIMMs showed normal OHMs.
- SEMM A was experiencing abnormal voltages (up and down from 230 - 22).
- We isolated line A at the breaker to keep line A shut-down. Currently no other wells use Line A.
- We started up the well with only line B up.

Attached emails are PQs account of the event and the Honeywell Event Log. Note that what is unknown is what actually caused valve closure. The event log shows no commands coming from the SPCU. DCVs are suppose to remain in last configuration during a power loss. B line remained NORMAL throughout event.

David, this is a heads up to you. We may be looking for some "control system consulting" support on this.

Regards,

ron

FMC Technologies Inc

1777 Gears Road
Houston TX 77067
Phone 281 591 4000
Fax 281 591 4002

FMC Technologies

May 23, 2008

BP America Inc.
11700 Old Katy Rd.
Houston, TX 77079

Attention: **Bill Broman**
Reference: **Atlantis**

Subject: Product Notification (Subsea Control Module – SEM150 CPU RAM Chip)

Dear Sir:

We have noticed a small number of subsea communication and data handling issues that have been traced to a specific batch of RAM chips used on the CPU board included in the subsea electronic module (SEM) inside the SCM. Operational issues may manifest as unstable communication, SEM reset or RAM error in housekeeping data and in a few cases unwanted valve movement has been reported. A reboot of the CPU may be performed which could temporarily correct the issue.

FMC has been working with the CPU board manufacturer to understand the root cause and develop corrective actions to ensure that this RAM chip issue does not recur. A more comprehensive RAM test has been introduced at the CPU board manufacturer to detect these types of RAM issues in the future. In addition, we are investigating a potential software release to reduce the impact of these types of subsea communication and data handling issues.

Products Affected:

Our records show that the Subsea Control Modules supplied below were manufactured with RAM chips from the specific batch.

Project Name	Tree Number	SCM Part Number	SCM Serial Number	Installed/Wet
BP Atlantis	Not mounted	100049000	2	No
	Not mounted	100049000	3	No

Both Atlantis affected SCMs are not installed so FMC recommends that these SCMs be refurbished.

FMC Technologies regrets any inconvenience that these issues may have caused.

Our Project or Customer Service Manager will be contacting you shortly to answer any specific details on your SCMs and provide assistance with a recommended path forward. And of course, always please feel free to contact any of us at FMC Technologies at your earliest convenience.

Sincerely,

Robert Noe
Project Manager

cc: S.Barrett, B.Houlgrave, S.Muszynski, T.Goggans, S.Osborn, G.Bradley
Bjarne Hystad, Michael King, Richard Lalor, Wenche Andersen

From: Hartley, Jamie <Jamie.Hartley@fmcti.com>
Sent: Wednesday, August 13, 2008 2:06 PM
To: Hartley, Jamie (FMC) <Jamie.Hartley@fmcti.com>; Oza, Nita <ozan@bp.com>; Leal, JJ (FMC) <JJ.Leal@fmcti.com>; scott.leonard@jpkhouston.com; Cotton, Steven L <steven.cotton@bp.com>; Berger, Ron K (Manatee) <ron.berger@bp.com>; Furneaux, Dale (FMC) <Dale.Furneaux@fmcti.com>; ERIK.BRISTOL@fmcti.com; Young, Brian J <Brian.j.young@bp.com>; Chan, Roy <roy.chan@bp.com>; Dean, Wayne (TECHNIP) <wdean@technip.com>; Fleming, Ray H <ray.fleming@bp.com>; McIntosh, Brian <Brian.McIntosh@fmcti.com>; Curran, Christopher J <christopher.curran@bp.com>
Cc: LINH.THAI@fmcti.com; Goggans, Tim <TIM.GOGGANS@fmcti.com>; ROBERT.HARDEE@fmcti.com; Shelagh.Osborn@fmcti.com; Mickey.Cotham@fmcti.com; WESTER, RANDY <RANDY.WESTER@fmcti.com>
Subject: BP Atlantis Single Board Computer Issues Meeting Minutes - 8/12/08

Here are the meeting minutes and action items from our meeting yesterday afternoon.

Attendees:

Scott Leonard
Ray Fleming
Brian Young
Ron Chan
Ron Berger
Jamie Hartley
Wayne Dean
JJ Leal
Dale Furneaux
Erik Bristol
Brian McIntosh
Bubba Hardee
Christopher Curran

Topics of discussion:

- Reviewed meeting minutes from the following weeks meeting (see e-mail below), one point of clarification regarding the interchangeability of the ATL and TH boards was noted. Though the boards are interchangeable, the configuration files on the TH boards are not the same as the configuration file on ATL boards. The configuration file can be changed as needed in the field by FMC topsides engineering should situation arise where the TH boards are needed to replace ATL boards.
- In addition to the spare board that currently resides in cabinet #3 on the PQ there are two spare boards that are on-hand at FMC for the CWTU. If required the CWTU itself contains two boards which could be removed and mobilized to the PQ in addition to the two spare CWTU boards. This brings the total number of ATL available spare replacement boards to five (5).
- Evaluation of the four boards returned from offshore resulted in 3 of the 4 boards being "bad", that is they failed to boot/power up. One of the four boards began but did not complete the boot/power up process and hung up. The software was evaluated and was not corrupt, therefore the boards themselves, which are manufactured by Motorola, are now in question. In addition to the 4 fours recently returned to FMC, there are two additional boards that where returned to FMC earlier in the year, these boards power/boot up normally.
- An RCA team should include representatives from Motorola, BP and FMC.

Action items from this meeting:

- Who from bp should be included in the RCA team – Ron Berger
- How many TH boards are not currently in use and could be utilized if needed by ATL – Christopher Curran
- What information is needed from the PQ to aid in the RCA effort – Dale Furneaux and Brian McIntosh
- Firmware upgrade for TH and ATL, scope of work/plan for PDQ and PQ – Dale Furneaux and JJ Leal
- Contact FMC Norway to get Motorola involved in evaluating the boards and participating in RCA – Brian McIntosh and Jamie Hartley

Open Actions items from last meeting:

- Develop a fault/logic tree for the investigation into the root cause of the issue by 8/08 – Dale Furneaux **NOTE: This will be done as part of the RCA**
- Investigate the equipment availability and setup of a test rig for evaluating the boards and for future use as personnel training device – Steve Cotton
- What is the current topside system configuration, i.e. map which wells are being supported by which cabinet and slot – Nita Oza
- FMC to provide weekly e-mail updates and/or establish weekly meeting to discuss root cause analysis (RCA) – Brian McIntosh **NOTE: On-going, meeting occurs every Tuesday at FMC CS Building from 3:30 to 5 pm**

Let me know if I've incorrectly stated or missed anything.

Regards,

Jamie Hartley
Customer Support Engineering Manager

E: jamie.hartley@fmcti.com | P: 281 591 8009 | M: 281 782 6873

From: Hartley, Jamie
Sent: Wednesday, August 06, 2008 10:24 AM
To: ozan@bp.com; Leal, JJ (JJ.Leal@fmcti.com); Scott Leonard (scott.leonard@jpkhouston.com); Steven Cotten (steven.cotton@bp.com); Ron Berger (ron.berger@bp.com); Furneaux, Dale (Dale.Furneaux@fmcti.com); Bristol, Erik (ERIK.BRISTOL@fmcti.com)
Cc: THAI, LINH (LINH.THAI@fmcti.com); Goggans, Tim; BUBBA HARDEE (ROBERT.HARDEE@fmcti.com); McIntosh, Brian; Shelagh Osborn (Shelagh.Osborn@fmcti.com)
Subject: BP Atlantis Single Board Computer Issues Meeting Minutes - 8/04/08

I'm sending out this e-mail to everyone to capture the meeting minutes and action items from our meeting Monday afternoon. I do not have Ray Fleming, or Roy Chan's e-mail address, Nita could you please forward this message on to them for me, thanks.

Attendees:

Scott Leonard
Ray Fleming
Roy Chan
Steve Cotton
Ron Berger
Jamie Hartley
Nita Oza
JJ Leal
Dale Furneaux
Erik Bristol
Brian McIntosh
Bubba Hardee

The following event log was presented to illustrate to issues to date:

Date	TPU Location	Event
2/29/2008	C1 1A	Problems with 123A, 124A, 143A
3/5/2008	C1 1A	Swapped board with platform's spare. Board brought back to FMC.
6/20/2008	C2 1B	Board stopped communicating
6/27/2008	C2 1B	Swapped board with C3 1A. Brought board back to FMC.
6/30/2008	C2 1B	Board worked at FMC
7/27/2008	C2 1B (original C3 1A)	Board stopped communicating
7/29/2008	C2 1A	Board stopped communicating
7/30/2008	C2 1A	Worked after board was reseated
7/30/2008	C2 1B (original C3 1A)	Swapped with new board. Will be brought back to FMC.
7/30/2008	C1 1A (original)	Board worked at FMC
7/30/2008	C3 1B	Noticed board not communicating. Will be brought back to FMC.
7/30/2008	C3 2B	Noticed board not communicating. Will be brought back to FMC.

Topics of discussion:

- Boards are not currently utilizing the latest software, consideration should be given to upgrading at some point. Software revision was not deemed relevant to issue at hand and it would not be wise to implement without first performing tests to understand what the implications are.
- Issuing a choke command followed by a choke stop command is known problem and will cause the boards to drop out. This problem is well documented and recommend that Operations team investigate the current use of this command.
- Currently there is only one spare board available on PQ that could be utilized in the event another board exhibits similar behavior.
- The BPTH boards are interchangeable with the Atlantis boards and could be utilized if necessary.
- Normal lead time for receipt of these boards from Norway is 75 days, this duration includes accounts for ordering boards and having firmware loaded, and the shipment to Houston. Boards are manufactured by Motorola and loaded with FMC firmware in Norway prior to shipment to Houston.
- Two boards returned from offshore have been successfully been powered up at FMC, but it has not been possible function them in manner consistent with actual field conditions. Non FMC supplied topsides control equipment may be available from BP for use in developing a test rig for evaluating the performance of the boards in question.
- Four boards recently replaced offshore are currently in transit from PQ to FMC for evaluation.
- FMC Norway has been advised of the performance issues experienced to date. They are providing personnel to aid in the troubleshooting and root cause analysis work. Norway is currently investigating if their have been any past performance issues of similar nature related to this equipment.
- FMC Houston Controls Product Group management and CS management are aware of the issue and are actively ensuring proper resources as

well as priority is established for root cause analysis given the potential impact to both Atlantis and Thunder Horse operations.

Action Items:

- What is the status of the boards that are currently on order with FMC Norway – Erik Bristol, 8/06 update: Expedited delivery is last week of September.
- Develop a fault/logic tree for the investigation into the root cause of the issue by 8/08 – Dale Furneaux
- Investigate the equipment availability and setup of a test rig for evaluating the boards and for future use as personnel training device – Steve Cotton
- What is the current topside system configuration, i.e. map which wells are being supported by which cabinet and slot – Nita Oza
- FMC to provide weekly e-mail updates and/or establish weekly meeting to discuss root cause analysis (RCA) – Brian McIntosh, 8/06 update: Next meeting at FMC on 8/12 at 3:30pm, thanks Ron.
- FMC to evaluate and power up the four boards recently replaced offshore upon receipt – Dale Furneaux, 8/06 update: Have received the boards, testing to begin today

Regards,

Jamie Hartley
Customer Support Engineering Manager
E: jamie.hartley@fmcti.com | P: 281 591 8009 | M:

FMC Technologies, Inc
11220 TC Jester | Houston, TX | 77067 USA
P: 281 591 4400
www.fmctechnologies.com

From: Berger, Ron K (Manatee)
Sent: Thursday, August 14, 2008 8:09:09 AM
To: Hartley, Jamie (FMC); 'robert.hardee@fmcti.com'; Furneaux, Dale (FMC); Whitehead, David K (Technip); Gutierrez, Daniel; Malone, Garrick
CC: Oza, Nita; Young, Brian J; Ragan, Frank
Subject: Request for DC113 SBC Software Changes

Attachments: Modified DC-113 tree schematic.pdf

Jamie,

BP requests FMC to change the software on the existing single board computers (SBC, 2 ea.) in the Atlantis SPCU that affect the DC113 well. The change to the software is described below.

- When the SBC receives a command to operate the DC113 AMV (manually from Honeywell HMI or automatically as a result of a safety shut-down sequence), the SBC will operate the AMV external actuator consistent with the attached schematic. The software should be changed such that this modification will only affect the DC113 well.
- When the SBC receives a command to operate the DC113 DSIV (manually from HMI or automatically as a result of a safety shut-down sequence), the SBC will operate the malfunctioned AMV actuator (DCV H09). The software should be changed such that this will only affect the DC113 well.
- The software will retain all functions to all other valves on all trees affected by the SBC's that contain this special software.
- FMC shall test this software prior to installation offshore. Each function that is communicated through the software shall be tested to ensure existing operability is unaffected by this change, and that the intended change works as desired.
- FMC will develop a procedure for installation of this software offshore.
- All the work described above shall be completed by 20-Aug-2008.
- Following 20-Aug-2008, FMC will participate in a risk assessment for the installation of this software, and make any procedure changes necessary to mitigate risks identified in this risk assessment. The latter shall be completed prior to the installation offshore.

Modified DC-113 tree schematic.pdf (204 kB)

Regards,

Ron Berger
Atlantis Subsea Operation

REDACTED

PRODUCTION
TREE #5
DC-113

From: Herrmann, Douglas T
Sent: Friday, August 15, 2008 1:54:28 PM
To: Berger, Ron K (Manatee); Gipson, Les
CC: Harrison, Rickey; Powell, Joe; Ragan, Frank; Cotton, Steven L; Oza, Nita; Young, Brian J; Ball, Michael A; Snyder, David D
Subject: RE: Learnings from DC122 Shut-in on 10-Aug-2008

I good with this plan moving forward. I would ask that we get the Techs on board the PQ, Jeff Snow and Josh Little involved with this also, as they can make sure nothing is re-set before the data is pulled.

With the incident today, and smart clint running we should have some good data on the issue we had today.

I will let Les comment, and than we can move this forward. I also sent this to both our MTL for comments and feedback.

Thanks for the communication and support.

Doug

From: Berger, Ron K (Manatee)
Sent: Friday, August 15, 2008 10:45 AM
To: Herrmann, Douglas T; Gipson, Les
Cc: Harrison, Rickey; Powell, Joe; Ragan, Frank; Cotton, Steven L; Oza, Nita; Young, Brian J
Subject: Learnings from DC122 Shut-in on 10-Aug-2008

Doug / Les,

We have reviewed the data currently available on the DC122 shut-in Sunday AM and have some learnings as a result of it. The immediate recommendations are below. A overview of the data is following the recommendations. If you concur with this course of action, please help me by communicating it to all SS CRO and Automation Technicians.

Recommendations:

- We were not keeping Smart Tool running and we seem to have a problem doing so. I believe this philosophy originated early at start-up when we had unexplained valve movements. Based on this 122 event, it does not appear that Smart Tool was the root cause as it was already shut-down. If Smart Tool is operating, very valuable diagnostic data is captured. We need to change our philosophy on the operation of this software so we can catch the diagnostic data we need to troubleshoot these complex problems.
- There are two programs that are associated with Smart Tool. One is "Smart Tool Client" and the 2nd is "Smart Tool Server". In order for FMC to acquire diagnostic data, or operate the tree directly from Smart Tool, "Smart Tool Client" must be operating. However, "Smart Tool Client" is not necessary to log the diagnostic data. ONLY "SMART TOOL SERVER" must be operating. No well control is possible with "Smart Tool Server". A GUI is not even posted when "Smart Tool Server" is running. Lets learn to start "Smart Tool Server" and check and make sure that is running. When an event happens, FMC can start "Smart Tool Client" and acquire the data that "Smart Tool Server" logged. If training is necessary to start "Smart Tool Server", let me know and we will get a FMC tech to perform it.
- According to the Event Log on 10-Aug, the A-Line Single Board Computer (SBC) associated with DC122 lost connection with the MVI Prosoft board about 10 minutes after the shut-in. It is not obvious to me if this was a result of a reset by a PQ technician or as a result of an issue with the board itself. We have learned from FMC, that if the SBC is reset, we LOSE valuable diagnostic data. In the future, we do not want to reset the SBC unless an emergency condition. The agreed coarse of action to isolate the issue is OPEN the appropriate line breaker (as we did late Sunday morning). Note that opening the line breaker will affect other wells on that line. However, wrt DC122, only 122 shares that line. Once we get FMC on-site, we will acquire the data and then proceed to attend to re-establish communication. It's possible we can learn to acquire the data ourselves to facilitate faster turn-around on re-boots.
- If you reset the Single Board Computer (SBC) you must also reset the associated MVI Prosoft card to re-establish communication. All A-side values will not update or change until the MVI is reset.

Data:

- From event logs we have all agreed that no command was sent from the PQ to shut-in DC122.
- Through our OPC link, we saw hydraulic pressure dump on the PWV, PIV, CIDV1, CIDV3, SCSSV1 and SCSSV2 at 7:20 am. PMV and AMV appeared to stay open through the event. We saw this on both the A and B side through the OPC link. Note that the OPC link does not go through the SBC and MVI cards. It goes through a separate path that is archived on-shore in a database and viewed in Processnet.
- Through the OPC link, all the A-side internal voltages (-12v, 12v, 5v and 25v) went to zero (with the exception of -12v) at the time of shut-in. The -12v transmitter went to -18v. The B side remained normal through the event.

From: Byrd, Wanda J
Sent: Sunday, August 17, 2008 9:32:37 AM
To: Berger, Ron K (Manatee); Oza, Nita; Young, Brian J
CC: Herrmann, Douglas T; Gipson, Les; Gardner, Alton P; Ross, Jim
Subject: DC-122 SEM A Issues

Ron,
This is an update on the number of alarms being received on DC-122 SEM A.

Throughout the Day and Night shifts yesterday, Aug 16th, DC-122 SEM A went 'OFFNORMAL' a total of 9 times. Each time it went back to Normal as it did on Aug 15th, which you are already aware of those events.

During nights on the 15th, these alarm were received on SPCU 1, Line 1.
At 21:56 - TEM A Status and Line Common went 'OFFNORMAL'.
At 00:11 - TEM B Status and Line Common went "OFFNORMAL'.
These are still showing 'OFFNORMAL'. No wells on SPCU 1 went 'OFFNORMAL'.

Wanda Byrd
Atlantis Subsea Operations
337-735-2223

From: Bristol, Erik <ERIK.BRISTOL@fmcti.com>
Sent: Monday, August 18, 2008 11:42 AM
To: Berger, Ron K (Manatee) <ron.berger@bp.com>; HARDEE, ROBERT <ROBERT.HARDEE@fmcti.com>; Leal, JJ (FMC) <JJ.Leal@fmcti.com>; Hartley, Jamie (FMC) <Jamie.Hartley@fmcti.com>; Furneaux, Dale (FMC) <Dale.Furneaux@fmcti.com>; Velamprambil, Benoj <Benoj.Velamprambil@fmcti.com>
Cc: Chan, Roy <Roy.Chan@bp.com>; Young, Brian J <Brian.J.Young@bp.com>; Oza, Nita <Nita.Oza@bp.com>
Subject: RE: DC122 A - CONTINUOUS LINE A FAULT

Thanks for the reply Dale.

Just FYI Ron, Benoj is also checking into this alarm and should provide an e-mail later.

Also,

The techs in the SCM lab have established communication with the SCM #11 and the AMV software updates. They are function testing and say that they should be finished in the morning.

Regards,

Erik M. Bristol
Customer Support Project Manager
E: erik.bristol@fmcti.com |

FMC Technologies
1777 Gears Rd | Houston TX | 77067 USA
Phone: 281 591 4000 | Fax: 281 405 4679
www.fmctechnologies.com

From: Berger, Ron K (Manatee) [mailto:ron.berger@bp.com]
Sent: Monday, August 18, 2008 9:08 AM
To: HARDEE, ROBERT; Leal, JJ; Hartley, Jamie; Bristol, Erik; Furneaux, Dale; Velamprambil, Benoj
Cc: Chan, Roy (Roy.Chan@BP.com); Young, Brian J (Brian.J.Young@BP.com); Nita.Oza@bp.com
Subject: DC122 A - CONTINUOUS LINE A FAULT

We are currently in continuous fault on DC122 Line A. Friday's Smart-tool log "report080815.txt" file contains the following error at 3 separate events. When benoj was here, he could not find these faults. I found them my first pass through the file. This error is the same each time an abnormal line a is documented by honeywell or observed by the subsea cro.

I'm in process of getting todays files with the continuous fault. **I would like an assessment ASAP on what "CKOS150Driver" - no reply is below.**

From C:\smarttool_150\report_logs\report080815.txt

```
WARNING    2008-08-15 09:56:07 SM          SPCU C2 SM 2B~line6B-SEM S134-P --- SEM time
synch failed ---
ERROR      2008-08-15 09:56:11 SM          10.3.1.1 CKOS150Driver --- No reply --- KOS150-
Update : line5A-SEM S122-P
ERROR      2008-08-15 09:56:11 SM          SPCU C1 SM 2A~line5A-SEM S122-P --- SEM-MODEM
High level communication: BAD ---
```

```
WARNING    2008-08-15 09:56:08 SM          SPCU C2 SM 1A~line1A-SEM S132-P --- SEM time
synch failed ---
WARNING    2008-08-15 09:56:08 SM          SPCU C2 SM 2A~line6A-SEM S134-P --- SEM time
synch failed ---
WARNING    2008-08-15 09:56:28 SM          SPCU C2 SM 2A~line6A-SEM S134-P --- SEM time
synch failed ---
WARNING    2008-08-15 09:56:28 SM          SPCU C2 SM 2A~line4A-SEM S101-W --- SEM time
synch failed ---
WARNING    2008-08-15 09:56:28 SM          SPCU C2 SM 1A~line1A-SEM S132-P --- SEM time
synch failed ---
WARNING    2008-08-15 09:56:28 SM          SPCU C2 SM 1B~line1B-SEM S132-P --- SEM time
synch failed ---
WARNING    2008-08-15 09:56:28 SM          SPCU C2 SM 2B~line6B-SEM S134-P --- SEM time
synch failed ---
WARNING    2008-08-15 09:56:28 SM          SPCU C2 SM 2B~line4B-SEM S101-W --- SEM time
synch failed ---
WARNING    2008-08-15 09:56:27 SM          SPCU C2 SM 2A~line6A-SEM S133-P --- SEM time
synch failed ---
WARNING    2008-08-15 09:56:27 SM          SPCU C2 SM 1A~line1A-SEM S131-P --- SEM time
synch failed ---
WARNING    2008-08-15 09:56:27 SM          SPCU C2 SM 2A~line4A-SEM S101-W --- SEM time
synch failed ---
WARNING    2008-08-15 09:56:27 SM          SPCU C2 SM 1B~line1B-SEM S131-P --- SEM time
synch failed ---
WARNING    2008-08-15 09:56:27 SM          SPCU C2 SM 2B~line6B-SEM S133-P --- SEM time
synch failed ---
WARNING    2008-08-15 09:56:27 SM          SPCU C2 SM 2B~line4B-SEM S101-W --- SEM time
synch failed ---
INFO       2008-08-15 09:56:31 SM          10.3.1.1 InitSequencer --- FCB synchronised ---
SEM# 213: SPCU C1 SM 2A~line5A-SEM S122-P

INFO       2008-08-15 09:56:31 SM          10.3.1.1 InitSequencer --- Sequence item
started --- SEM# 213: SPCU C1 SM 2A~line5A-SEM S122-P, Item #1: Start Alternative Program

INFO       2008-08-15 09:56:31 SM          10.3.1.1 InitSequencer --- Sequence item
executed --- SEM# 213: SPCU C1 SM 2A~line5A-SEM S122-P, Item #1

INFO       2008-08-15 09:56:31 SM          10.3.1.1 InitSequencer --- Delay after sequence
item --- SEM# 213: SPCU C1 SM 2A~line5A-SEM S122-P, Item #1 delay: 30.0 seconds
```

FROM HONEYWELL EVENT LOG AT SAME TIME.

15-Aug-08 9:53:19 ATT_PL98111_BYP CHANGE NONE OP MAN_BYP SSSCRO
15-Aug-08 9:56:17 ATS_US12266A ALARM H 00 DC-122 SEM A STATUS OFFNORML
15-Aug-08 9:56:17 ATS_US12268A ALARM H 00 DC-122 SEM A COMM STATUS OFFNORML

15-Aug-08 9:57:09 ATS_US12266A ALARM OK H 00 DC-122 SEM A STATUS NORMAL
15-Aug-08 9:57:09 ATS_US12268A ALARM OK H 00 DC-122 SEM A COMM STATUS NORMAL

15-Aug-08 10:00:52 ATS_US12266A ALARM ACK NONE DC-122 SEM A STATUS OFFNORML SSSCRO
15-Aug-08 10:00:52 ATS_US12266A ALARM ACK PNT NONE DC-122 SEM A STATUS SSSCRO
15-Aug-08 10:00:52 ATS_US12268A ALARM ACK NONE DC-122 SEM A COMM STATUS OFFNORML SSSCRO
15-Aug-08 10:00:52 ATS_US12268A ALARM ACK PNT NONE DC-122 SEM A COMM STATUS SSSCRO

15-Aug-08	10:05:22	ATS_US12266A	ALARM	H 00	DC-122 SEM A STATUS	OFFNORML
15-Aug-08	10:05:22	ATS_US12268A	ALARM	H 00	DC-122 SEM A COMM STATUS	OFFNORML

From: Snow, Jeff R
Sent: Monday, August 18, 2008 10:26:34 AM
To: Berger, Ron K (Manatee); Byrd, Wanda J; Oza, Nita; Young, Brian J
CC: Herrmann, Douglas T; Gipson, Les; Gardner, Alton P; Ross, Jim
Subject: RE: DC-122 SEM A Issues

Attachments: SMT_EXP_Logs_20080815-18.zip

Ron,

I've attached the Experion events as well as the SMT logs from 15Aug08 until this a.m.

SMT_EXP_Logs_20080815-18.zip
(1 MB)

Jeff

From: Berger, Ron K (Manatee)
Sent: Monday, August 18, 2008 6:52 AM
To: Byrd, Wanda J; Oza, Nita; Young, Brian J
Cc: Herrmann, Douglas T; Gipson, Les; Gardner, Alton P; Ross, Jim; Snow, Jeff R
Subject: RE: DC-122 SEM A Issues

Can you get jeff to get onto the smart tool device and copy the txt files for 080817? He just needs to follow the same instructions as on the 15th (see attached). We are doing some research why the smart tool did not log any of the events on Friday. It may be filtering short events. We did verify that the honeywell tag traces back to the correct fmc tag.

<< Message: RE: Emailing: DC122_SEM_A_COMM_STATUS20080815.xls >>

From: Byrd, Wanda J
Sent: Sunday, August 17, 2008 8:33 AM
To: Berger, Ron K (Manatee); Oza, Nita; Young, Brian J
Cc: Herrmann, Douglas T; Gipson, Les; Gardner, Alton P; Ross, Jim
Subject: DC-122 SEM A Issues

Ron,
This is an update on the number of alarms being received on DC-122 SEM A.

Throughout the Day and Night shifts yesterday, Aug 16th, DC-122 SEM A went 'OFFNORMAL' a total of 9 times. Each time it went back to Normal as it did on Aug 15th, which you are already aware of those events.

During nights on the 15th, these alarm were received on SPCU 1, Line 1.
At 21:56 - TEM A Status and Line Common went 'OFFNORMAL'.
At 00:11 - TEM B Status and Line Common went "OFFNORMAL'.
These are still showing 'OFFNORMAL'. No wells on SPCU 1 went 'OFFNORMAL'.

Wanda Byrd
Atlantis Subsea Operations
337-735-2223

From: Herrmann, Douglas T
Sent: Monday, August 18, 2008 10:43:09 AM
To: Snow, Jeff R; Berger, Ron K (Manatee); Byrd, Wanda J; Oza, Nita; Young, Brian J
CC: Gipson, Les; Gardner, Alton P; Ross, Jim
Subject: RE: DC-122 SEM A Issues

Ron/Jeff,

Great job on working this issue...thank you.

Doug

From: Snow, Jeff R
Sent: Monday, August 18, 2008 9:27 AM
To: Berger, Ron K (Manatee); Byrd, Wanda J; Oza, Nita; Young, Brian J
Cc: Herrmann, Douglas T; Gipson, Les; Gardner, Alton P; Ross, Jim
Subject: RE: DC-122 SEM A Issues

Ron,

I've attached the Experion events as well as the SMT logs from 15Aug08 until this a.m.

<< File: SMT_EXP_Logs_20080815-18.zip >>
Jeff

From: Berger, Ron K (Manatee)
Sent: Monday, August 18, 2008 6:52 AM
To: Byrd, Wanda J; Oza, Nita; Young, Brian J
Cc: Herrmann, Douglas T; Gipson, Les; Gardner, Alton P; Ross, Jim; Snow, Jeff R
Subject: RE: DC-122 SEM A Issues

Can you get jeff to get onto the smart tool device and copy the txt files for 080817? He just needs to follow the same instructions as on the 15th (see attached). We are doing some research why the smart tool did not log any of the events on Friday. It may be filtering short events. We did verify that the honeywell tag traces back to the correct fmc tag.

<< Message: RE: Emailing: DC122_SEM_A_COMM_STATUS20080815.xls >>

From: Byrd, Wanda J
Sent: Sunday, August 17, 2008 8:33 AM
To: Berger, Ron K (Manatee); Oza, Nita; Young, Brian J
Cc: Herrmann, Douglas T; Gipson, Les; Gardner, Alton P; Ross, Jim
Subject: DC-122 SEM A Issues

Ron,
This is an update on the number of alarms being received on DC-122 SEM A.

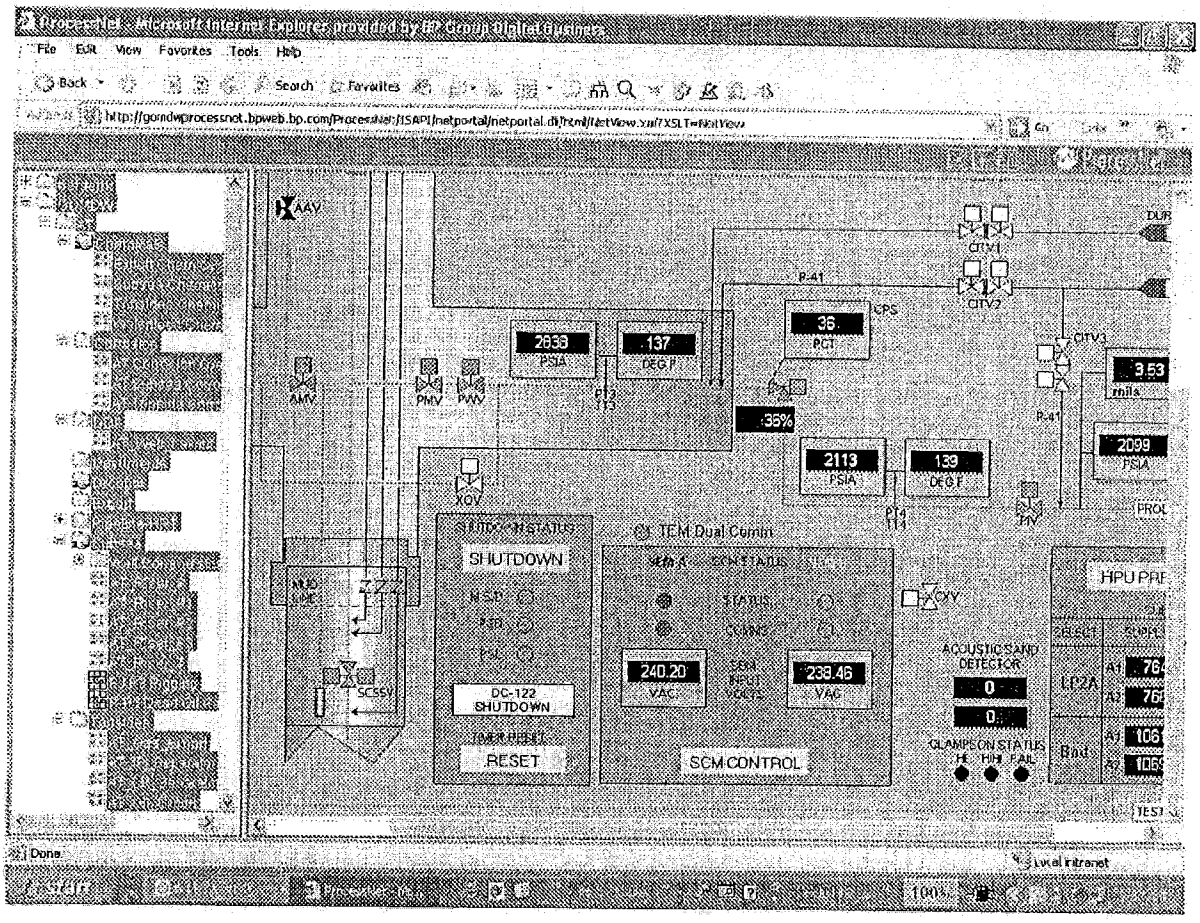
Throughout the Day and Night shifts yesterday, Aug 16th, DC-122 SEM A went 'OFFNORMAL' a total of 9 times. Each time it went back to Normal as it did on Aug 15th, which you are already aware of those events.

During nights on the 15th, these alarm were received on SPCU 1, Line 1.
At 21:56 - TEM A Status and Line Common went 'OFFNORMAL'.
At 00:11 - TEM B Status and Line Common went "OFFNORMAL'.
These are still showing 'OFFNORMAL'. No wells on SPCU 1 went 'OFFNORMAL'.

Wanda Byrd
Atlantis Subsea Operations
337-735-2223

From: Berger, Ron K (Manatee) <ron.berger@bp.com>
Sent: Monday, August 18, 2008 11:29 AM
To: Furneaux, Dale (FMC) <furnd0@bp.com>; HARDEE, ROBERT <ROBERT.HARDEE@fmcti.com>; Leal, JJ (FMC) <jj.leal@fmcti.com>; Hartley, Jamie (FMC) <jamie.hartley@fmcti.com>; Bristol, Erik <ERIK.BRISTOL@fmcti.com>; Velamprambil, Benoj <Benoj.Velamprambil@fmcti.com>
Cc: Chan, Roy <Roy.Chan@BP.com>; Young, Brian J <Brian.J.Young@BP.com>; Oza, Nita <Nita.Oza@BP.com>
Subject: RE: DC122 A - CONTINUOUS LINE A FAULT
Attach: RE_ DC-122 SEM A Issues.msg

thank you. is that bad? how do we get it to stop? we are in continuous alarm at the moment (see below). the smart tool report log that started today has nothing related to this. the limm is still in fault and maybe that is the cause for this am.



From: Furneaux, Dale [mailto:Dale.Furneaux@fmcti.com]
Sent: Monday, August 18, 2008 9:38 AM
To: Berger, Ron K (Manatee); HARDEE, ROBERT; Leal, JJ (FMC); Hartley, Jamie (FMC); Bristol, Erik; Velamprambil, Benoj
Cc: Chan, Roy; Young, Brian J; Oza, Nita
Subject: RE: DC122 A - CONTINUOUS LINE A FAULT

"CKOS150Driver" - no reply is below.

Basically it's the TPU (SBC Board) telling you that you did not get a reply back from the SEM after the last interrogation.

```
FCB synchronised --- SEM# 213: SPCU C1 SM 2A-line5A-SEM S122-P
```

This is the FCB bit re-synchronizing. Basically the FCB bit is a bit that toggles from 0 to 1 on every message. This identifies to the SEM if the message is a new message or a re-try.

```
INFO       2008-08-15 09:56:31 SM         10.3.1.1 InitSequencer --- Sequence item started --- SEM# 213: SPCU C1 SM 2A~line5A-
SEM S122-P, Item #1: Start Alternative Program

INFO       2008-08-15 09:56:31 SM         10.3.1.1 InitSequencer --- Sequence item executed --- SEM# 213: SPCU C1 SM 2A~line5A-
SEM S122-P, Item #1

INFO       2008-08-15 09:56:31 SM         10.3.1.1 InitSequencer --- Delay after sequence item --- SEM# 213: SPCU C1 SM
2A~line5A-SEM S122-P, Item #1 delay: 30.0 seconds
```

This is the Alternative program restarting with a 30 second delay.

Regards,

Dale Furneaux
FMC Technologies
Product Engineer
E: dale.furneaux@fmctj.com | P: 281.591.8016 | F: 281.405.4972

This communication (and/or the documents accompanying it) may contain confidential information belonging to the sender or intended recipient. The information is intended solely for the use of the individual or entity named above. If you are not the intended recipient, you are hereby notified that any disclosure, copying, distribution or the taking of any action in reliance on the contents of this information is strictly prohibited. If you receive this communication in error, please notify us immediately by telephone to arrange for the return of the documents.

From: Berger, Ron K (Manatee) [mailto:ron.berger@bp.com]
Sent: Monday, August 18, 2008 9:08 AM
To: HARDEE, ROBERT; Leal, JJ; Hartley, Jamie; Bristol, Erik; Furneaux, Dale; Velamprambil, Benoj
Cc: Chan, Roy (Roy.Chan@BP.com); Young, Brian J (Brian.J.Young@BP.com); Nita.Oza@bp.com
Subject: DC122 A - CONTINUOUS LINE A FAULT

We are currently in continuous fault on DC122 Line A. Friday's Smart-tool log "report080815.txt" file contains the following error at 3 separate events. When benoj was here, he could not find these faults. I found them my first pass through the file. This error is the same each time an abnormal line a is documented by honeywell or observed by the subsea cro.

I'm in process of getting todays files with the continuous fault. I would like an assessment ASAP on what "CKOS150Driver" - no reply is below.

From C:\smarttool_150\report_logs\report080815.txt

```
WARNING    2008-08-15 09:56:07 SM         SPCU C2 SM 2B~line6B-SEM S134-P --- SEM time synch failed ---
ERROR      2008-08-15 09:56:11 SM         10.3.1.1 CKOS150Driver --- No reply --- KOS150-Update : line5A-SEM S122-P
ERROR      2008-08-15 09:56:11 SM         SPCU C1 SM 2A~line5A-SEM S122-P --- SEM-MODEM High level communication: BAD ---

WARNING    2008-08-15 09:56:08 SM         SPCU C2 SM 1A~line1A-SEM S132-P --- SEM time synch failed ---
WARNING    2008-08-15 09:56:08 SM         SPCU C2 SM 2A~line6A-SEM S134-P --- SEM time synch failed ---
WARNING    2008-08-15 09:56:28 SM         SPCU C2 SM 2A~line6A-SEM S134-P --- SEM time synch failed ---
WARNING    2008-08-15 09:56:28 SM         SPCU C2 SM 2A~line4A-SEM S101-W --- SEM time synch failed ---
WARNING    2008-08-15 09:56:28 SM         SPCU C2 SM 1A~line1A-SEM S132-P --- SEM time synch failed ---
WARNING    2008-08-15 09:56:28 SM         SPCU C2 SM 1B~line1B-SEM S132-P --- SEM time synch failed ---
WARNING    2008-08-15 09:56:28 SM         SPCU C2 SM 2B~line6B-SEM S134-P --- SEM time synch failed ---
WARNING    2008-08-15 09:56:28 SM         SPCU C2 SM 2B~line4B-SEM S101-W --- SEM time synch failed ---
WARNING    2008-08-15 09:56:27 SM         SPCU C2 SM 2A~line6A-SEM S133-P --- SEM time synch failed ---
WARNING    2008-08-15 09:56:27 SM         SPCU C2 SM 1A~line1A-SEM S131-P --- SEM time synch failed ---
WARNING    2008-08-15 09:56:27 SM         SPCU C2 SM 2A~line4A-SEM S101-W --- SEM time synch failed ---
WARNING    2008-08-15 09:56:27 SM         SPCU C2 SM 1B~line1B-SEM S131-P --- SEM time synch failed ---
WARNING    2008-08-15 09:56:27 SM         SPCU C2 SM 2B~line6B-SEM S133-P --- SEM time synch failed ---
WARNING    2008-08-15 09:56:27 SM         SPCU C2 SM 2B~line4B-SEM S101-W --- SEM time synch failed ---
INFO       2008-08-15 09:56:31 SM         10.3.1.1 InitSequencer --- FCB synchronised --- SEM# 213: SPCU C1 SM 2A~line5A-SEM
S122-P

INFO       2008-08-15 09:56:31 SM         10.3.1.1 InitSequencer --- Sequence item started --- SEM# 213: SPCU C1 SM 2A~line5A-
SEM S122-P, Item #1: Start Alternative Program

INFO       2008-08-15 09:56:31 SM         10.3.1.1 InitSequencer --- Sequence item executed --- SEM# 213: SPCU C1 SM 2A~line5A-
SEM S122-P, Item #1

INFO       2008-08-15 09:56:31 SM         10.3.1.1 InitSequencer --- Delay after sequence item --- SEM# 213: SPCU C1 SM
2A~line5A-SEM S122-P, Item #1 delay: 30.0 seconds
```

FROM HONEYWELL EVENT LOG AT SAME TIME.

```
                                    15-Aug-08    9:53:19 ATT_PL98111_BYP CHANGE      NONE  OP   MAN_BYP      SSSCRO
                              15-Aug-08    9:56:17 ATS_US12266A  ALARM       H 00  DC-122 SEM A STATUS  OFFNORML
                        15-Aug-08    9:56:17 ATS_US12268A  ALARM       H 00  DC-122 SEM A COMM STATUS  OFFNORML
                                    15-Aug-08    9:57:09 ATS_US12266A  ALARM  OK   H 00  DC-122 SEM A STATUS  NORMAL
                              15-Aug-08    9:57:09 ATS_US12268A  ALARM  OK   H 00  DC-122 SEM A COMM STATUS  NORMAL
                        15-Aug-08    10:00:52     ATS_US12266A  ALARM  ACK  NONE  DC-122 SEM A STATUS  OFFNORML      SSSCRO
                              15-Aug-08    10:00:52     ATS_US12266A  ALARM  ACK PNT NONE  DC-122 SEM A STATUS        SSSCRO
                  15-Aug-08    10:00:52     ATS_US12268A  ALARM  ACK  NONE  DC-122 SEM A COMM STATUS  OFFNORML      SSSCRO
                        15-Aug-08    10:00:52     ATS_US12268A  ALARM  ACK PNT NONE  DC-122 SEM A COMM STATUS        SSSCRO
```

15-Aug-08	10:05:22	ATS_US12266A	ALARM	H 00	DC-122 SEM A STATUS	OFFNORML
15-Aug-08	10:05:22	ATS_US12268A	ALARM	H 00	DC-122 SEM A COMM STATUS	OFFNORML

From: Snow, Jeff R
Sent: Tuesday, August 19, 2008 8:35:26 PM
To: Berger, Ron K (Manatee); Cotton, Steven L
CC: Herrmann, Douglas T; Young, Brian J; Oza, Nita
Subject: RE: 122 Info

Ron,

Just wanted to follow up our phone conversation with an email. The symptoms that we're seeing with SPCU 2 SEM B SBC2B (I think I got that right) appear to be the same as what I observed several months ago when one of the other Motorola boards was changed out. What Aneet and I saw then was that the SBC was basically not booting up correctly and fully. Certain LEDs remain lit while others show no activity and the SBC is not visible on the system. Some time in the last week I either heard or read about FMC running into the same problem with some number of boards that were right off the shelf? This is the reason that I personally don't see the need to do a complete system power down and back up. Others may feel differently. I feel this problem goes directly to the SBC hardware or software that is running on it. Just my 2 cents.

Steve,

When is our system going to be set up at FMC for testing? What would it take to get an Ops automation guy working directly with FMC? I'm in no saying thinking that I could discover the problem, but direct communication with FMC while working with the system would be best in by opinion as well as offering the best time in the world to get a better understanding of how the FMC system operates.

Thanks,

Jeff

From: Berger, Ron K (Manatee)
Sent: Tuesday, August 19, 2008 8:36 AM
To: Velasquez, Roy (Technip); Leal, JJ (FMC); Furneaux, Dale (FMC); 'HARDEE, ROBERT'; 'ERIK.BRISTOL@fmcti.com'; Cotton, Steven L; Snow, Jeff R
Cc: Chan, Roy; Young, Brian J; Oza, Nita
Subject: FW: 122 Info

Below came out of smart tool log this am. Also attached are some operator notes with issues on 113/114.

```
WARNING    2008-08-18 20:18:51 SM         SPCU C2 SM 1B~line1B-SEM S132-P --- SEM time
synch failed ---
INFO       2008-08-18 20:18:52 PCS        10.13.1.1 SCU interface 2.GIOStd --- SCU
disconnected ---
INFO       2008-08-18 20:18:52 PCS        10.12.1.1 SCU interface 2.GIOStd --- SCU
disconnected ---
WARNING    2008-08-18 20:18:55 SM         SPCU C2 SM 2A~line4A-SEM S101-W --- SEM time
synch failed ---
WARNING    2008-08-18 20:18:55 SM         SPCU C2 SM 1B~line1B-SEM S131-P --- SEM time
synch failed ---
WARNING    2008-08-18 20:18:55 SM         SPCU C2 SM 2A~line6A-SEM S133-P --- SEM time
synch failed ---
WARNING    2008-08-18 20:18:55 SM         SPCU C2 SM 1A~line1A-SEM S131-P --- SEM time
synch failed ---
WARNING    2008-08-18 20:18:53 SM         SPCU C2 SM 2A~line4A-SEM S101-W --- SEM time
synch failed ---
WARNING    2008-08-18 20:18:53 SM         SPCU C2 SM 2A~line6A-SEM S134-P --- SEM time
synch failed ---
WARNING    2008-08-18 20:18:53 SM         SPCU C2 SM 1A~line1A-SEM S132-P --- SEM time
synch failed ---
WARNING    2008-08-18 20:18:53 SM         SPCU C2 SM 1B~line1B-SEM S132-P --- SEM time
synch failed ---
WARNING    2008-08-18 20:19:03 SM         SPCU C2 SM 2A~line4A-SEM S101-W --- SEM time
synch failed ---
```

```
WARNING    2008-08-18 20:19:04 SM        SPCU C2 SM 2A~line6A-SEM S133-P --- SEM time
synch failed ---
WARNING    2008-08-18 20:19:04 SM        SPCU C2 SM 1A~line1A-SEM S131-P --- SEM time
synch failed ---
WARNING    2008-08-18 20:19:04 SM        SPCU C2 SM 1B~line1B-SEM S131-P --- SEM time
synch failed ---
WARNING    2008-08-18 20:19:02 SM        SPCU C2 SM 2A~line4A-SEM S101-W --- SEM time
synch failed ---
WARNING    2008-08-18 20:19:03 SM        SPCU C2 SM 1B~line1B-SEM S132-P --- SEM time
synch failed ---
WARNING    2008-08-18 20:19:02 SM        SPCU C2 SM 2A~line6A-SEM S134-P --- SEM time
synch failed ---
WARNING    2008-08-18 20:19:02 SM        SPCU C2 SM 1A~line1A-SEM S132-P --- SEM time
synch failed ---
WARNING    2008-08-18 20:19:12 SM        SPCU C2 SM 2A~line6A-SEM S133-P --- SEM time
synch failed ---
WARNING    2008-08-18 20:19:12 SM        SPCU C2 SM 1A~line1A-SEM S131-P --- SEM time
synch failed ---
WARNING    2008-08-18 20:19:12 SM        SPCU C2 SM 1B~line1B-SEM S131-P --- SEM time
synch failed ---
WARNING    2008-08-18 20:19:12 SM        SPCU C2 SM 2A~line4A-SEM S101-W --- SEM time
synch failed ---
WARNING    2008-08-18 20:19:11 SM        SPCU C2 SM 1B~line1B-SEM S132-P --- SEM time
synch failed ---
WARNING    2008-08-18 20:19:11 SM        SPCU C2 SM 2A~line6A-SEM S134-P --- SEM time
synch failed ---
WARNING    2008-08-18 20:19:11 SM        SPCU C2 SM 1A~line1A-SEM S132-P --- SEM time
synch failed ---
WARNING    2008-08-18 20:19:11 SM        SPCU C2 SM 2A~line4A-SEM S101-W --- SEM time
synch failed ---
INFO       2008-08-18 20:19:15 PCS       10.14.1.1 SCU interface 2.GIOStd --- SCU
connected --- from 149.184.13.151:2147
INFO       2008-08-18 20:19:20 PCS       10.12.1.1 SCU interface 2.GIOStd --- SCU
connected --- from 149.184.13.151:2145
INFO       2008-08-18 20:19:20 PCS       10.13.1.1 SCU interface 2.GIOStd --- SCU
connected --- from 149.184.13.151:2148
WARNING    2008-08-18 20:19:15 SM        SPCU C2 SM 2A~line6A-SEM S133-P --- SEM time
synch failed ---
WARNING    2008-08-18 20:19:15 SM        SPCU C2 SM 1B~line1B-SEM S131-P --- SEM time
synch failed ---
WARNING    2008-08-18 20:19:15 SM        SPCU C2 SM 1A~line1A-SEM S131-P --- SEM time
synch failed ---
WARNING    2008-08-18 20:19:16 SM        SPCU C2 SM 2A~line4A-SEM S101-W --- SEM time
synch failed ---
INFO       2008-08-18 20:19:22 PCS       10.13.1.1 SCU interface 2.GIOStd --- SCU
disconnected ---
INFO       2008-08-18 20:19:23 PCS       10.14.1.1 SCU interface 2.GIOStd --- SCU
disconnected ---
INFO       2008-08-18 20:19:22 PCS       10.12.1.1 SCU interface 2.GIOStd --- SCU
disconnected ---
WARNING    2008-08-18 20:19:25 SM        SPCU C2 SM 2A~line6A-SEM S134-P --- SEM time
synch failed ---
WARNING    2008-08-18 20:19:25 SM        SPCU C2 SM 1A~line1A-SEM S132-P --- SEM time
synch failed ---
WARNING    2008-08-18 20:19:25 SM        SPCU C2 SM 1B~line1B-SEM S132-P --- SEM time
synch failed ---
INFO       2008-08-18 20:19:25 PCS       10.12.1.1 SCU interface 2.GIOStd --- SCU
connected --- from 149.184.13.151:2155
INFO       2008-08-18 20:19:25 PCS       10.13.1.1 SCU interface 2.GIOStd --- SCU
connected --- from 149.184.13.151:2156
INFO       2008-08-18 20:19:26 PCS       10.14.1.1 SCU interface 2.GIOStd --- SCU
connected --- from 149.184.13.151:2157
WARNING    2008-08-18 20:19:26 SM        SPCU C2 SM 2A~line4A-SEM S101-W --- SEM time
```

```
synch failed ---
INFO        2008-08-18 20:19:27 PCS         10.13.1.1 SCU interface 2.GIOStd --- SCU
disconnected ---
INFO        2008-08-18 20:19:27 PCS         10.12.1.1 SCU interface 2.GIOStd --- SCU
disconnected ---
INFO        2008-08-18 20:19:23 PCS         10.14.1.1 SCU interface 2.GIOStd --- SCU
disconnected ---
WARNING     2008-08-18 20:19:24 SM          SPCU C2 SM 1B~line1B-SEM S131-P --- SEM time
synch failed ---
WARNING     2008-08-18 20:19:24 SM          SPCU C2 SM 2A~line6A-SEM S133-P --- SEM time
synch failed ---
WARNING     2008-08-18 20:19:24 SM          SPCU C2 SM 1A~line1A-SEM S131-P --- SEM time
synch failed ---
WARNING     2008-08-18 20:19:25 SM          SPCU C2 SM 2A~line4A-SEM S101-W --- SEM time
synch failed ---
INFO        2008-08-18 20:19:30 PCS         10.13.1.1 SCU interface 2.GIOStd --- SCU
connected --- from 149.184.13.151:2165
INFO        2008-08-18 20:19:30 PCS         10.12.1.1 SCU interface 2.GIOStd --- SCU
connected --- from 149.184.13.151:2164
INFO        2008-08-18 20:19:26 PCS         10.14.1.1 SCU interface 2.GIOStd --- SCU
connected --- from 149.184.13.151:2166
INFO        2008-08-18 20:19:32 PCS         10.12.1.1 SCU interface 2.GIOStd --- SCU
disconnected ---
INFO        2008-08-18 20:19:32 PCS         10.13.1.1 SCU interface 2.GIOStd --- SCU
disconnected ---
INFO        2008-08-18 20:19:28 PCS         10.14.1.1 SCU interface 2.GIOStd --- SCU
disconnected ---
WARNING     2008-08-18 20:19:28 SM          SPCU C2 SM 2A~line6A-SEM S134-P --- SEM time
synch failed ---
```

<< Message: RE: DC-113 SEM B >> << Message: Well Gauges >>

From: Berger, Ron K (Manatee)
Sent: Tuesday, August 19, 2008 7:52 AM
To: Velamprambil, Benoj; ERIK.BRISTOL@fmcti.com; Leal, JJ (FMC); 'Furneaux, Dale'; HARDEE, ROBERT
Cc: Chan, Roy (Roy.Chan@BP.com); Cotton, Steven L (Steven.Cotton@BP.com); Young, Brian J (Brian.J.Young@BP.com); Nita.Oza@BP.com; Snow, Jeff R
Subject: FW: 122 Info

benoj,

see below. 5A line breaker is and has been closed. Currently modem does not appear to have activity. i'm getting the complete set of log files (smarttool) from yesterday. i've instructed them not to touch the SBC until i hear from ya'll. Please let me know what your assessment is with the NEW data I have provided below ASAP.

Lets recap what we know.

- DC122 shut-in at 7:20 am on 8/10 for unknown causes. No manual or automatic shut-down sequences were logged by honeywell as sent to the well at that time. Smart tool server / client was not running at that time.
- According to subsea OPC data, the PIV, PWV, CIDV1, CIDV3, SCSSV1 and SCSSV2 DCVs vented. All other valves remained in same state (PMV and AMV remained open through shutin).
- There was a Subsea Comm Fault coincident at the time of shut-in on Line A. It's possible the SBC was reset about 10 minutes after shut-in and the MVI card was not (according to event logs).
- We opened the Line 5A breaker later that morning to mitigate any other potential shut-ins and restarted well on Line B
- Tuesday, Benoj was at Westlake. We started Smart tool, closed breaker, reset SBC and MVI and re-established communication down Line A. No problems were identified. Left Smart tool running.
- On 8/15 we had 3 intermittent subsea comm alarms on Line A. Benoj came to Westlake again. We did not find anything abnormal at that time. The fault below was later identified in smart tool (i.e. CKOS150 Driver)
- Several intermittent subsea comm alarms occurred through the weekend of 8/16 (same CKOS150 Driver fault).
- Subsea comm, Line A on DC122 went into continuous alarm on 8/17 at 21:20
- LIM went off at 8/15 at 21:57 so that seems to be a red herring. We have not reset the alarms in the cabinet yet but are working to do so.

- The MVI card thinks it is talking to SBC through all these events.
- This problem is only on DC122, Line A
- The 5A breaker is currently closed and did not trip all week.
- Intermittent comm errors associated with this line had the following error in smart tool logs (over a dozen times over last week since smart tool was started on 8/12)

```
ERROR      2008-08-15 09:56:11 SM          10.3.1.1 CKOS150Driver --- No reply --- KOS150-
Update : line5A-SEM S122-P
ERROR      2008-08-15 09:56:11 SM          SPCU C1 SM 2A~line5A-SEM S122-P --- SEM-MODEM
High level communication: BAD ---
WARNING    2008-08-15 09:56:08 SM          SPCU C2 SM 1A~line1A-SEM S132-P --- SEM time
synch failed ---
WARNING    2008-08-15 09:56:08 SM          SPCU C2 SM 2A~line6A-SEM S134-P --- SEM time
synch failed ---
WARNING    2008-08-15 09:56:28 SM          SPCU C2 SM 2A~line6A-SEM S134-P --- SEM time
synch failed ---
WARNING    2008-08-15 09:56:28 SM          SPCU C2 SM 2A~line4A-SEM S101-W --- SEM time
synch failed ---
WARNING    2008-08-15 09:56:28 SM          SPCU C2 SM 1A~line1A-SEM S132-P --- SEM time
synch failed ---
WARNING    2008-08-15 09:56:28 SM          SPCU C2 SM 1B~line1B-SEM S132-P --- SEM time
synch failed ---
WARNING    2008-08-15 09:56:28 SM          SPCU C2 SM 2B~line6B-SEM S134-P --- SEM time
synch failed ---
WARNING    2008-08-15 09:56:28 SM          SPCU C2 SM 2B~line4B-SEM S101-W --- SEM time
synch failed ---
WARNING    2008-08-15 09:56:27 SM          SPCU C2 SM 2A~line6A-SEM S133-P --- SEM time
synch failed ---
WARNING    2008-08-15 09:56:27 SM          SPCU C2 SM 1A~line1A-SEM S131-P --- SEM time
synch failed ---
WARNING    2008-08-15 09:56:27 SM          SPCU C2 SM 2A~line4A-SEM S101-W --- SEM time
synch failed ---
WARNING    2008-08-15 09:56:27 SM          SPCU C2 SM 1B~line1B-SEM S131-P --- SEM time
synch failed ---
WARNING    2008-08-15 09:56:27 SM          SPCU C2 SM 2B~line6B-SEM S133-P --- SEM time
synch failed ---
WARNING    2008-08-15 09:56:27 SM          SPCU C2 SM 2B~line4B-SEM S101-W --- SEM time
synch failed ---
INFO       2008-08-15 09:56:31 SM          10.3.1.1 InitSequencer --- FCB synchronised ---
SEM# 213: SPCU C1 SM 2A~line5A-SEM S122-P
INFO       2008-08-15 09:56:31 SM          10.3.1.1 InitSequencer --- Sequence item
started --- SEM# 213: SPCU C1 SM 2A~line5A-SEM S122-P, Item #1: Start Alternative Program
INFO       2008-08-15 09:56:31 SM          10.3.1.1 InitSequencer --- Sequence item
executed --- SEM# 213: SPCU C1 SM 2A~line5A-SEM S122-P, Item #1
INFO       2008-08-15 09:56:31 SM          10.3.1.1 InitSequencer --- Delay after sequence
item --- SEM# 213: SPCU C1 SM 2A~line5A-SEM S122-P, Item #1 delay: 30.0 seconds
```

- I went back again into Smart Tool log on 8/17 at 21:20 and found the following.

```
ERROR    2008-08-17 21:20:36 SM    SPCU C1 SM 2A~line5A-SEM S122-P~Process sensors~DH, DHI-112
Schlumberger~DH-A, Lower DHPT Gauge --- No reply --- Could not set DH coefficients, error code: 8603
WARNING  2008-08-17 21:20:32 SM    SPCU C2 SM 2A~line4A-SEM S101-W --- SEM time synch failed ---
WARNING  2008-08-17 21:20:32 SM    SPCU C2 SM 2B~line4B-SEM S101-W --- SEM time synch failed ---
WARNING  2008-08-17 21:20:32 SM    SPCU C2 SM 1A~line1A-SEM S132-P --- SEM time synch failed ---
WARNING  2008-08-17 21:20:32 SM    SPCU C2 SM 2A~line6A-SEM S134-P --- SEM time synch failed ---
WARNING  2008-08-17 21:20:32 SM    SPCU C2 SM 2B~line6B-SEM S134-P --- SEM time synch failed ---
WARNING  2008-08-17 21:20:32 SM    SPCU C2 SM 1B~line1B-SEM S132-P --- SEM time synch failed ---
INFO     2008-08-17 21:20:40 SM    SPCU C1 SM 2A~line5A-SEM S122-P --- SEM-MODEM High level communication:
OK ---
ERROR    2008-08-17 21:20:40 SM    SPCU C1 SM 2A~line5A-SEM S122-P --- SEM-MODEM High level communication:
BAD ---
WARNING  2008-08-17 21:20:41 SM    SPCU C2 SM 1A~line1A-SEM S131-P --- SEM time synch failed ---
```

WARNING 2008-08-17 21:20:41 SM SPCU C2 SM 2A~line6A-SEM S133-P --- SEM time synch failed ---
WARNING 2008-08-17 21:20:41 SM SPCU C2 SM 2B~line6B-SEM S133-P --- SEM time synch failed ---
WARNING 2008-08-17 21:20:41 SM SPCU C2 SM 1B~line1B-SEM S131-P --- SEM time synch failed ---
WARNING 2008-08-17 21:20:42 SM SPCU C2 SM 2B~line4B-SEM S101-W --- SEM time synch failed ---
WARNING 2008-08-17 21:20:42 SM SPCU C2 SM 2A~line4A-SEM S101-W --- SEM time synch failed ---
INFO 2008-08-17 21:20:45 SM 10.3.1.1 InitSequencer --- FCB synchronised --- SEM# 213: SPCU C1 SM 2A~line5A-SEM S122-P
INFO 2008-08-17 21:20:45 SM 10.3.1.1 InitSequencer --- Sequence item started --- SEM# 213: SPCU C1 SM 2A~line5A-SEM S122-P, Item #1: Start Alternative Program
WARNING 2008-08-17 21:20:40 SM SPCU C2 SM 1A~line1A-SEM S132-P --- SEM time synch failed ---
WARNING 2008-08-17 21:20:40 SM SPCU C2 SM 2A~line6A-SEM S134-P --- SEM time synch failed ---
INFO 2008-08-17 21:20:46 SM 10.3.1.1 InitSequencer --- Sequence item executed --- SEM# 213: SPCU C1 SM 2A~line5A-SEM S122-P, Item #1
INFO 2008-08-17 21:20:46 SM 10.3.1.1 InitSequencer --- Delay after sequence item --- SEM# 213: SPCU C1 SM 2A~line5A-SEM S122-P, Item #1 delay: 30.0 seconds

- We have had numerous alarms on Line A for DC122. Below is a snapshot over last month of the subea comm status.

<< OLE Object: Picture (Device Independent Bitmap) >>

Regards,

ron

From: Snow, Jeff R
Sent: Monday, August 18, 2008 6:05 PM
To: Berger, Ron K (Manatee); Herrmann, Douglas T
Cc: Cotton, Steven L; Byrd, Wanda J; Sun, Henry (TX57)
Subject: FW: 122 Info

Ron,

Line 5A breaker is closed, yet there's no activity on one of the modems in the rack. This is apparently the same thing that has been occurring. I believe that the other guys had been opening and then closing the line 5A breaker and resetting the SBC to reinitialize common with the SCU.

Doug,

Are we going to need a permit to hit the reset that Ron talks about in the original email of this thread to reset the LIM alarm?

Jeff

From: Sun, Henry (TX57) [mailto:Henry.Sun2@honeywell.com]
Sent: Monday, August 18, 2008 4:21 PM
To: Berger, Ron K (Manatee); Snow, Jeff R
Cc: Cotton, Steven L; Herrmann, Douglas T; Byrd, Wanda J
Subject: RE: 122 Info

Ron,

Please see attached spreadsheet. I did not plot the graphs because I'm not sure how you would like to display them since there are many data; but all the data you need should be there.

Thanks,

Henry

From: Berger, Ron K (Manatee) [mailto:ron.berger@bp.com]
Sent: Monday, August 18, 2008 3:33 PM
To: Sun, Henry (TX57); Snow, Jeff R
Cc: Cotton, Steven L (Steven.Cotton@BP.com); Herrmann, Douglas T (HERRMADT@BP.com); Wanda.Byrd@bp.com
Subject: 122 Info

Jeff and / or henry,

Are the LIMM values (for the Bender in alarm) stored in PHD? Can I get an excel spreadsheet with all the LIMM values for that Bender over the last two weeks? With it, can you also plot the Line A Comm status for DC122? I would do this myself, but I don't currently get the LIMM passed into Processnet (something I need to change).

If the LIMM values are not in PHD how do we start getting them into PHD?

Jeff, I need you also to go into the cabinet again, and check the Line 5A breaker. Let me know if it is Open or Closed. It's possible it opened when the LIMM went off.

Finally, currently FMC is saying we can reset the alarm on the LIMM by the Alarm reset at the top of the cabinet. This button resets all the alarms in the cabinet and nothing else. They are suggesting to reset it and see if the LIMM trips again. However, the 5A breaker needs to be closed first.

Ron

From: Sun, Henry (TX57) <Henry.Sun2@honeywell.com>
Sent: Tuesday, August 19, 2008 2:06 PM
To: Cotton, Steven L <Steven.Cotton@bp.com>; Berger, Ron K (Manatee) <ron.berger@bp.com>; Furneaux, Dale (FMC) <Dale.Furneaux@fmcti.com>
Cc: Snow, Jeff R <Jeff.Snow@BP.com>; Oza, Nita <nita.oza@bp.com>; Young, Brian J <Brian.J.Young@BP.com>
Subject: RE: 122 Info
Attach: MVI12A.zip

Please see attached, MVI12A, which is associated with DC-122 A side, has not indicated a no connection nor a fault during the time period where the Smart Tool is indicating SCU disconnect.

From: Cotton, Steven L [mailto:Steven.Cotton@bp.com]
Sent: Tuesday, August 19, 2008 12:08 PM
To: Sun, Henry (TX57)
Subject: FW: 122 Info

From: Furneaux, Dale [mailto:Dale.Furneaux@fmcti.com]
Sent: Tuesday, August 19, 2008 10:10 AM
To: Berger, Ron K (Manatee); Velasquez, Roy (TechnIp); Leal, JJ (FMC); HARDEE, ROBERT; Bristol, Erik; Cotton, Steven L; Snow, Jeff R
Cc: Chan, Roy; Young, Brian J; Oza, Nita
Subject: RE: 122 Info

Ron,

Whoa, it looks like the MVI modules that connect to the SCU are disconnected or they are trying to connect and disconnecting again. Check the MVI interface, also make sure the Ethernet cables in the PMC connection (SCU) are plugged fully in. Also check the switch that hooks the MVI's to the SBC (TPU's) boards. Basically the Honeywell system is not connected to the SBC boards, so any commands that came through interface 10.13.1.1 and 10.12.1.1 will not work.

Regards,

Dale Furneaux
FMC Technologies
Product Engineer
E: dale.furneaux@fmcti.com | P: 281.591.8016 | F: 281.405.4972

This communication (and/or the documents accompanying it) may contain confidential information belonging to the sender or intended recipient. The information is intended solely for the use of the individual or entity named above. If you are not the intended recipient, you are hereby notified that any disclosure, copying, distribution or the taking of any action in reliance on the contents of this information is strictly prohibited. If you receive this communication in error, please notify us immediately by telephone to arrange for the return of the documents.

From: Berger, Ron K (Manatee) [mailto:ron.berger@bp.com]
Sent: Tuesday, August 19, 2008 8:36 AM
To: Velasquez, Roy (TechnIp); Leal, JJ; Furneaux, Dale; HARDEE, ROBERT; Bristol, Erik; Cotton, Steven L (Steven.Cotton@BP.com); Snow, Jeff R
Cc: Chan, Roy (Roy.Chan@BP.com); Young, Brian J (Brian.J.Young@BP.com); Nita.Oza@bp.com
Subject: FW: 122 Info

Below came out of smart tool log this am. Also attached are some operator notes with issues on 113/114.

```
WARNING   2008-08-18 20:18:51 SM    SPCU C2 SM 1B~line1B-SEM S132-P --- SEM time synch failed ---
INFO      2008-08-18 20:18:52 PCS   10.13.1.1 SCU interface 2.GIOStd --- SCU disconnected ---
INFO      2008-08-18 20:18:52 PCS   10.12.1.1 SCU interface 2.GIOStd --- SCU disconnected ---
WARNING   2008-08-18 20:18:55 SM    SPCU C2 SM 2A~line4A-SEM S101-W --- SEM time synch failed ---
WARNING   2008-08-18 20:18:55 SM    SPCU C2 SM 1B~line1B-SEM S131-P --- SEM time synch failed ---
WARNING   2008-08-18 20:18:55 SM    SPCU C2 SM 2A~line6A-SEM S133-P --- SEM time synch failed ---
WARNING   2008-08-18 20:18:55 SM    SPCU C2 SM 1A~line1A-SEM S131-P --- SEM time synch failed ---
WARNING   2008-08-18 20:18:53 SM    SPCU C2 SM 2A~line4A-SEM S101-W --- SEM time synch failed ---
WARNING   2008-08-18 20:19:53 SM    SPCU C2 SM 2A~line6A-SEM S134-P --- SEM time synch failed ---
WARNING   2008-08-18 20:18:53 SM    SPCU C2 SM 1A~line1A-SEM S132-P --- SEM time synch failed ---
WARNING   2008-08-18 20:18:53 SM    SPCU C2 SM 1B~line1B-SEM S132-P --- SEM time synch failed ---
WARNING   2008-08-18 20:19:03 SM    SPCU C2 SM 2A~line4A-SEM S101-W --- SEM time synch failed ---
WARNING   2008-08-18 20:19:04 SM    SPCU C2 SM 2A~line6A-SEM S133-P --- SEM time synch failed ---
WARNING   2008-08-18 20:19:04 SM    SPCU C2 SM 1A~line1A-SEM S131-P --- SEM time synch failed ---
WARNING   2008-08-18 20:19:04 SM    SPCU C2 SM 1B~line1B-SEM S131-P --- SEM time synch failed ---
WARNING   2008-08-18 20:19:02 SM    SPCU C2 SM 2A~line4A-SEM S101-W --- SEM time synch failed ---
WARNING   2008-08-18 20:19:03 SM    SPCU C2 SM 1B~line1B-SEM S132-P --- SEM time synch failed ---
WARNING   2008-08-18 20:19:02 SM    SPCU C2 SM 2A~line6A-SEM S134-P --- SEM time synch failed ---
WARNING   2008-08-18 20:19:02 SM    SPCU C2 SM 1A~line1A-SEM S132-P --- SEM time synch failed ---
WARNING   2008-08-18 20:19:12 SM    SPCU C2 SM 2A~line6A-SEM S133-P --- SEM time synch failed ---
WARNING   2008-08-18 20:19:12 SM    SPCU C2 SM 1A~line1A-SEM S131-P --- SEM time synch failed ---
WARNING   2008-08-18 20:19:12 SM    SPCU C2 SM 1B~line1B-SEM S131-P --- SEM time synch failed ---
WARNING   2008-08-18 20:19:12 SM    SPCU C2 SM 2A~line4A-SEM S101-W --- SEM time synch failed ---
WARNING   2008-08-18 20:19:11 SM    SPCU C2 SM 1B~line1B-SEM S132-P --- SEM time synch failed ---
WARNING   2008-08-18 20:19:11 SM    SPCU C2 SM 2A~line6A-SEM S134-P --- SEM time synch failed ---
WARNING   2008-08-18 20:19:11 SM    SPCU C2 SM 1A~line1A-SEM S132-P --- SEM time synch failed ---
WARNING   2008-08-18 20:19:11 SM    SPCU C2 SM 2A~line4A-SEM S101-W --- SEM time synch failed ---
INFO      2008-08-18 20:19:15 PCS   10.14.1.1 SCU interface 2.GIOStd --- SCU connected --- from 149.184.13.151:2147
```

```
INFO      2008-08-18 20:19:20 PCS      10.12.1.1 SCU interface 2.GIOStd --- SCU connected --- from 149.184.13.151:2145

INFO      2008-08-18 20:19:20 PCS      10.13.1.1 SCU interface 2.GIOStd --- SCU connected --- from 149.184.13.151:2148

WARNING   2008-08-18 20:19:15 SM       SPCU C2 SM 2A~line6A-SEM S133-P --- SEM time synch failed ---
WARNING   2008-08-18 20:19:15 SM       SPCU C2 SM 1B~line1B-SEM S131-P --- SEM time synch failed ---
WARNING   2008-08-18 20:19:15 SM       SPCU C2 SM 1A~line1A-SEM S131-P --- SEM time synch failed ---
WARNING   2008-08-18 20:19:16 SM       SPCU C2 SM 2A~line4A-SEM S101-W --- SEM time synch failed ---
INFO      2008-08-18 20:19:22 PCS      10.13.1.1 SCU interface 2.GIOStd --- SCU disconnected ---
INFO      2008-08-18 20:19:25 PCS      10.14.1.1 SCU interface 2.GIOStd --- SCU disconnected ---
INFO      2008-08-18 20:19:22 PCS      10.12.1.1 SCU interface 2.GIOStd --- SCU disconnected ---
WARNING   2008-08-18 20:19:25 SM       SPCU C2 SM 2A~line6A-SEM S134-P --- SEM time synch failed ---
WARNING   2008-08-18 20:19:25 SM       SPCU C2 SM 1A~line1A-SEM S132-P --- SEM time synch failed ---
WARNING   2008-08-18 20:19:25 SM       SPCU C2 SM 1B~line1B-SEM S132-P --- SEM time synch failed ---
INFO      2008-08-18 20:19:25 PCS      10.12.1.1 SCU interface 2.GIOStd --- SCU connected --- from 149.184.13.151:2155

INFO      2008-08-18 20:19:25 PCS      10.13.1.1 SCU interface 2.GIOStd --- SCU connected --- from 149.184.13.151:2156

INFO      2008-08-18 20:19:26 PCS      10.14.1.1 SCU interface 2.GIOStd --- SCU connected --- from 149.184.13.151:2157

WARNING   2008-08-18 20:19:26 SM       SPCU C2 SM 2A~line4A-SEM S101-W --- SEM time synch failed ---
INFO      2008-08-18 20:19:27 PCS      10.13.1.1 SCU interface 2.GIOStd --- SCU disconnected ---
INFO      2008-08-18 20:19:27 PCS      10.12.1.1 SCU interface 2.GIOStd --- SCU disconnected ---
INFO      2008-08-18 20:19:23 PCS      10.14.1.1 SCU interface 2.GIOStd --- SCU disconnected ---
WARNING   2008-08-18 20:19:24 SM       SPCU C2 SM 1B~line1B-SEM S131-P --- SEM time synch failed ---
WARNING   2008-08-18 20:19:24 SM       SPCU C2 SM 2A~line6A-SEM S133-P --- SEM time synch failed ---
WARNING   2008-08-18 20:19:24 SM       SPCU C2 SM 1A~line1A-SEM S131-P --- SEM time synch failed ---
WARNING   2008-08-18 20:19:25 SM       SPCU C2 SM 2A~line4A-SEM S101-W --- SEM time synch failed ---
INFO      2008-08-18 20:19:30 PCS      10.13.1.1 SCU interface 2.GIOStd --- SCU connected --- from 149.184.13.151:2165

INFO      2008-08-18 20:19:30 PCS      10.12.1.1 SCU interface 2.GIOStd --- SCU connected --- from 149.184.13.151:2164

INFO      2008-08-18 20:19:26 PCS      10.14.1.1 SCU interface 2.GIOStd --- SCU connected --- from 149.184.13.151:2166

INFO      2008-08-18 20:19:32 PCS      10.12.1.1 SCU interface 2.GIOStd --- SCU disconnected ---
INFO      2008-08-18 20:19:32 PCS      10.13.1.1 SCU interface 2.GIOStd --- SCU disconnected ---
INFO      2008-08-18 20:19:28 PCS      10.14.1.1 SCU interface 2.GIOStd --- SCU disconnected ---
WARNING   2008-08-18 20:19:20 SM       SPCU C2 SM 2A~line6A-SEM S134-P --- SEM time synch failed ---
```

<<RE: DC-113 SEM B>> <<Well Gauges>>

From: Berger, Ron K (Manatee)

Sent: Tuesday, August 19, 2008 7:52 AM

To: Velamprambil, Benoj; ERIK.BRISTOL@fmcti.com; Leal, JJ (FMC); 'Furneaux, Dale'; HARDEE, ROBERT

Cc: Chan, Roy (Roy.Chan@BP.com); Cotton, Steven L (Steven.Cotton@BP.com); Young, Brian J (Brian.J.Young@BP.com); Nita.Oza@BP.com; Snow, Jeff R

Subject: FW: 122 Info

benoj,

see below. 5A line breaker is and has been closed. Currently modem does not appear to have activity. i'm getting the complete set of log files (smarttool) from yesterday. i've instructed them not to touch the SBC until i hear from ya'll. Please let me know what your assessment is with the NEW data I have provided below ASAP.

Lets recap what we know.

- DC122 shut-in at 7:20 am on 8/10 for unknown causes. No manual or automatic shut-down sequences were logged by honeywell as sent to the well at that time. Smart tool server / client was not running at that time.
- According to subsea OPC data, the PIV, PWV, CIDV1, CIDV3, SCSSV1 and SCSSV2 DCVs vented. All other valves remained in same state (PMV and AMV remained open through shutin).
- There was a Subsea Comm Fault coincident at the time of shut-in on Line A. It's possible the SBC was reset about 10 minutes after shut-in and the MVI card was not (according to event logs).
- We opened the Line 5A breaker later that morning to mitigate any other potential shut-ins and restarted well on Line B
- Tuesday, Benoj was at Westlake. We started Smart tool, closed breaker, reset SBC and MVI and re-established communication down Line A. No problems were identified. Left Smart tool running.
- On 8/15 we had 3 intermittent subsea comm alarms on Line A. Benoj came to Westlake again. We did not find anything abnormal at that time. The fault below was later identified in smart tool (i.e. CKOS150 Driver)
- Several intermittent subsea comm alarms occurred through the weekend of 8/16 (same CKOS150 Driver fault).
- Subsea comm, Line A on DC122 went into continuous alarm on 8/17 at 21:20
- LIM went off at 8/15 at 21:57 so that seems to be a red herring. We have not reset the alarms in the cabinet yet but are working to do so.
- The MVI card thinks it is talking to SBC through all these events.
- This problem is only on DC122, Line A
- The 5A breaker is currently closed and did not trip all week.
- Intermittent comm errors associated with this line had the following error in smart tool logs (over a dozen times over last week since smart tool was started on 8/12)

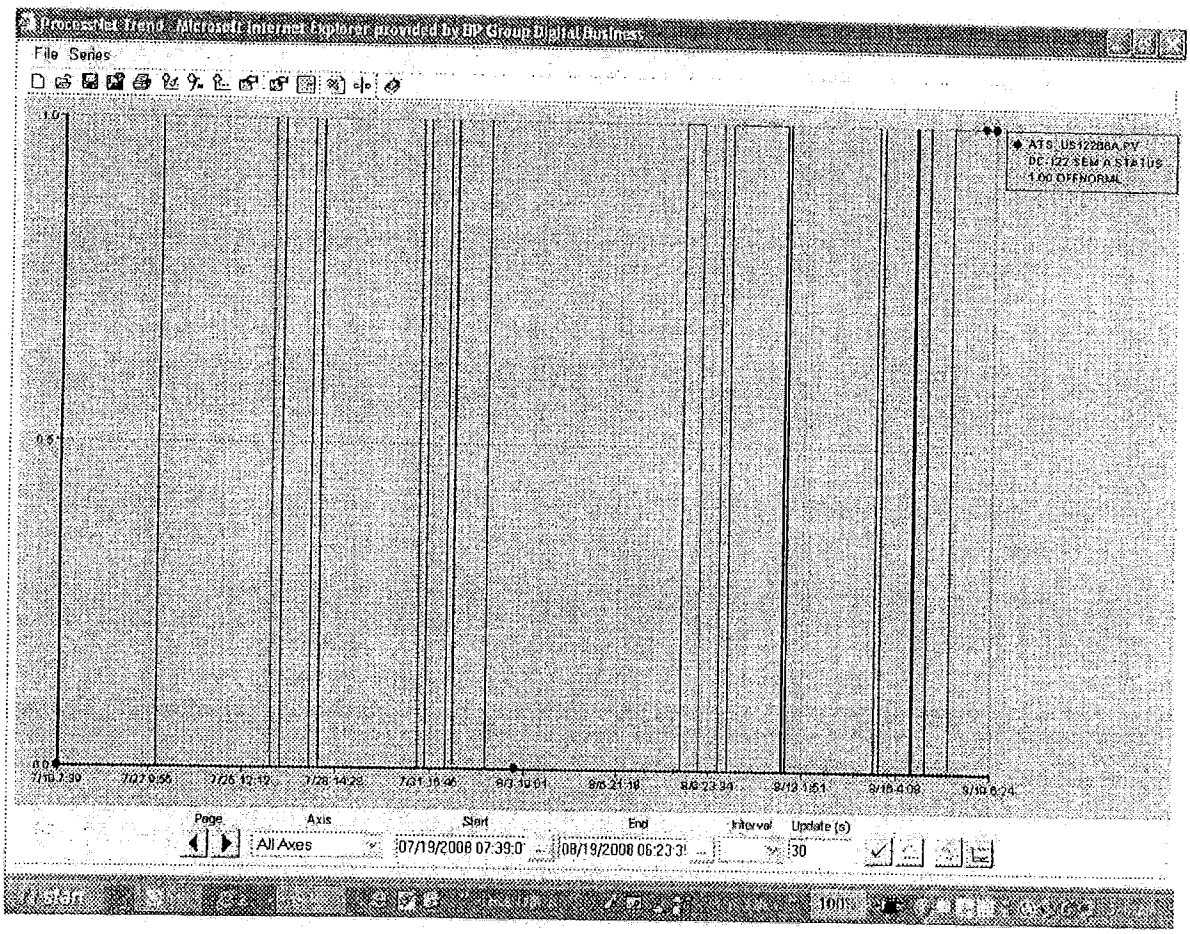
```
ERROR     2008-08-15 09:56:11 SM       10.3.1.1 CKOS150Driver --- No reply --- KOS150-Update : line5A-SEM S122-P
ERROR     2008-08-15 09:56:11 SM       SPCU C1 SM 2A~line5A-SEM S122-P --- SEM-MODEM High level communication: BAD ---
```

```
WARNING   2008-08-15 09:56:08 SM      SPCU C2 SM 1A~line1A-SEM S132-P --- SEM time synch failed ---
WARNING   2008-08-15 09:56:08 SM      SPCU C2 SM 2A~line6A-SEM S134-P --- SEM time synch failed ---
WARNING   2008-08-15 09:56:28 SM      SPCU C2 SM 2A~line6A-SEM S134-P --- SEM time synch failed ---
WARNING   2008-08-15 09:56:28 SM      SPCU C2 SM 2A~line4A-SEM S101-W --- SEM time synch failed ---
WARNING   2008-08-15 09:56:28 SM      SPCU C2 SM 1A~line1A-SEM S132-P --- SEM time synch failed ---
WARNING   2008-08-15 09:56:28 SM      SPCU C2 SM 1B~line1B-SEM S132-P --- SEM time synch failed ---
WARNING   2008-08-15 09:56:28 SM      SPCU C2 SM 2B~line6B-SEM S134-P --- SEM time synch failed ---
WARNING   2008-08-15 09:56:28 SM      SPCU C2 SM 2B~line4B-SEM S101-W --- SEM time synch failed ---
WARNING   2008-08-15 09:56:27 SM      SPCU C2 SM 2A~line6A-SEM S133-P --- SEM time synch failed ---
WARNING   2008-08-15 09:56:27 SM      SPCU C2 SM 1A~line1A-SEM S131-P --- SEM time synch failed ---
WARNING   2008-08-15 09:56:27 SM      SPCU C2 SM 2A~line4A-SEM S101-W --- SEM time synch failed ---
WARNING   2008-08-15 09:56:27 SM      SPCU C2 SM 1B~line1B-SEM S131-P --- SEM time synch failed ---
WARNING   2008-08-15 09:56:27 SM      SPCU C2 SM 2B~line6B-SEM S133-P --- SEM time synch failed ---
WARNING   2008-08-15 09:56:27 SM      SPCU C2 SM 2B~line4B-SEM S101-W --- SEM time synch failed ---
INFO      2008-08-15 09:56:31 SM      10.3.1.1 InitSequencer --- FCB synchronised --- SEM# 213: SPCU C1 SM 2A~line5A-SEM
S122-P

INFO      2008-08-15 09:56:31 SM      10.3.1.1 InitSequencer --- Sequence item started --- SEM# 213: SPCU C1 SM 2A~line5A-
SEM S122-P, Item #1: Start Alternative Program

INFO      2008-08-15 09:56:31 SM      10.3.1.1 InitSequencer --- Sequence item executed --- SEM# 213: SPCU C1 SM 2A~line5A-
SEM S122-P, Item #1

INFO      2008-08-15 09:56:31 SM      10.3.1.1 InitSequencer --- Delay after sequence item --- SEM# 213: SPCU C1 SM
2A~line5A-SEM S122-P, Item #1 delay: 30.0 seconds
```

- I went back again into Smart Tool log on 8/17 at 21:20 and found the following.

```
ERROR   2008-08-17 21:20:36 SM    SPCU C1 SM 2A~line5A-SEM S122-P~Process sensors~DH, DHI-112 Schlumberger~DH-A, Lower DHPT Gauge --- No reply --- Could not
set DH coefficients, error code: 8603

WARNING   2008-08-17 21:20:32 SM    SPCU C2 SM 2A~line4A-SEM S101-W --- SEM time synch failed ---
WARNING   2008-08-17 21:20:32 SM    SPCU C2 SM 2B~line4B-SEM S101-W --- SEM time synch failed ---
WARNING   2008-08-17 21:20:32 SM    SPCU C2 SM 1A~line1A-SEM S132-P --- SEM time synch failed ---
WARNING   2008-08-17 21:20:32 SM    SPCU C2 SM 2A~line6A-SEM S134-P --- SEM time synch failed ---
WARNING   2008-08-17 21:20:32 SM    SPCU C2 SM 2B~line6B-SEM S134-P --- SEM time synch failed ---
WARNING   2008-08-17 21:20:32 SM    SPCU C2 SM 1B~line1B-SEM S132-P --- SEM time synch failed ---
INFO      2008-08-17 21:20:40 SM    SPCU C1 SM 2A~line5A-SEM S122-P --- SEM-MODEM High level communication: OK ---

ERROR   2008-08-17 21:20:40 SM    SPCU C1 SM 2A~line5A-SEM S122-P --- SEM-MODEM High level communication: BAD ---

WARNING   2008-08-17 21:20:41 SM    SPCU C2 SM 1A~line1A-SEM S131-P --- SEM time synch failed ---
WARNING   2008-08-17 21:20:41 SM    SPCU C2 SM 2A~line6A-SEM S133-P --- SEM time synch failed ---
WARNING   2008-08-17 21:20:41 SM    SPCU C2 SM 2B~line6B-SEM S133-P --- SEM time synch failed ---
WARNING   2008-08-17 21:20:41 SM    SPCU C2 SM 1B~line1B-SEM S131-P --- SEM time synch failed ---
WARNING   2008-08-17 21:20:42 SM    SPCU C2 SM 2B~line4B-SEM S101-W --- SEM time synch failed ---
WARNING   2008-08-17 21:20:42 SM    SPCU C2 SM 2A~line4A-SEM S101-W --- SEM time synch failed ---
INFO      2008-08-17 21:20:45 SM    10.3.1.1 InitSequencer --- FCB synchronised --- SEM# 213: SPCU C1 SM 2A~line5A-SEM S122-P

INFO      2008-08-17 21:20:45 SM    10.3.1.1 InitSequencer --- Sequence item started --- SEM# 213: SPCU C1 SM 2A~line5A-SEM S122-P, Item #1: Start Alternative Program

WARNING   2008-08-17 21:20:40 SM    SPCU C2 SM 1A~line1A-SEM S132-P --- SEM time synch failed ---
WARNING   2008-08-17 21:20:40 SM    SPCU C2 SM 2A~line6A-SEM S134-P --- SEM time synch failed ---
INFO      2008-08-17 21:20:46 SM    10.3.1.1 InitSequencer --- Sequence item executed --- SEM# 213: SPCU C1 SM 2A~line5A-SEM S122-P, Item #1

INFO      2008-08-17 21:20:46 SM    10.3.1.1 InitSequencer --- Delay after sequence item --- SEM# 213: SPCU C1 SM 2A~line5A-SEM S122-P, Item #1 delay: 30.0 seconds
```

- We have had numerous alarms on Line A for DC122. Below is a snapshot over last month of the subea comm status.



Regards,

ron

From: Snow, Jeff R
Sent: Monday, August 18, 2008 6:05 PM
To: Berger, Ron K (Manatee); Herrmann, Douglas T
Cc: Cotton, Steven L; Byrd, Wanda J; Sun, Henry (TX57)
Subject: FW: 122 Info

Ron,

Line 5A breaker is closed, yet there's no activity on one of the modems in the rack. This is apparently the same thing that has been occurring. I believe that the other guys had been opening and then closing the line 5A breaker and resetting the SBC to reinitialize common with the SCU.

Doug,

Are we going to need a permit to hit the reset that Ron talks about in the original email of this thread to reset the LIM alarm?

Jeff

From: Sun, Henry (TX57) [mailto:Henry.Sun2@honeywell.com]
Sent: Monday, August 18, 2008 4:21 PM
To: Berger, Ron K (Manatee); Snow, Jeff R
Cc: Colton, Steven L; Herrmann, Douglas T; Byrd, Wanda J
Subject: RE: 122 Info

Ron,

Please see attached spreadsheet. I did not plot the graphs because I'm not sure how you would like to display them since there are many data; but all the data you need should be there.

Thanks,

Henry

From: Berger, Ron K (Manatee) [mailto:ron.berger@bp.com]
Sent: Monday, August 18, 2008 3:33 PM
To: Sun, Henry (TX57); Snow, Jeff R
Cc: Colton, Steven L (Steven.Colton@BP.com); Herrmann, Douglas T (HERRMADT@BP.com); Wanda.Byrd@bp.com
Subject: 122 Info

Jeff and / or henry,

Are the LIMM values (for the Bender in alarm) stored in PHD? Can I get an excel spreadsheet with all the LIMM values for that Bender over the last two weeks? With it, can you also plot the Line A Comm status for DC122? I would do this myself, but I don't currently get the LIMM passed into Processnet (something I need to change).

If the LIMM values are not in PHD how do we start getting them into PHD?

Jeff, I need you also to go into the cabinet again, and check the Line 5A breaker. Let me know if it is Open or Closed. It's possible it opened when the LIMM went off.

Finally, currently FMC is saying we can reset the alarm on the LIMM by the Alarm reset at the top of the cabinet. This button resets all the alarms in the cabinet and nothing else. They are suggesting to reset it and see if the LIMM trips again. However, the 5A breaker needs to be closed first.

Ron

Sample First Page from BPEP_ABB_03587119.xls

(NOTE: Full Excel File Has 43,204 Rows)

#NAME?	ATS_SCUC1RC01A_S03_MVI_NOCONN.PV		ATS_SCUC1RC01A_S03_MVI_FLT.PV	
	RC01A SLOT 03 MVI PROSOFT MODULE NO CONNECTION		RC01A SLOT 03 MVI PROSOFT MODULE FAULT	
Timestamp	ATS_SCUC1RC01A_S03_MVI_NOCONN.PV - SnapShot	Confidence	ATS_SCUC1RC01A_S03_MVI_FLT.PV - SnapShot	Confidence
12:55:01	NORMAL	100	NORMAL	100
12:55:02	NORMAL	100	NORMAL	100
12:55:03	NORMAL	100	NORMAL	100
12:55:04	NORMAL	100	NORMAL	100
12:55:05	NORMAL	100	NORMAL	100
12:55:06	NORMAL	100	NORMAL	100
12:55:07	NORMAL	100	NORMAL	100
12:55:08	NORMAL	100	NORMAL	100
12:55:09	NORMAL	100	NORMAL	100
12:55:10	NORMAL	100	NORMAL	100
12:55:11	NORMAL	100	NORMAL	100
12:55:12	NORMAL	100	NORMAL	100
12:55:13	NORMAL	100	NORMAL	100
12:55:14	NORMAL	100	NORMAL	100
12:55:15	NORMAL	100	NORMAL	100
12:55:16	NORMAL	100	NORMAL	100
12:55:17	NORMAL	100	NORMAL	100
12:55:18	NORMAL	100	NORMAL	100
12:55:19	NORMAL	100	NORMAL	100
12:55:20	NORMAL	100	NORMAL	100
12:55:21	NORMAL	100	NORMAL	100
12:55:22	NORMAL	100	NORMAL	100
12:55:23	NORMAL	100	NORMAL	100
12:55:24	NORMAL	100	NORMAL	100
12:55:25	NORMAL	100	NORMAL	100
12:55:26	NORMAL	100	NORMAL	100
12:55:27	NORMAL	100	NORMAL	100
12:55:28	NORMAL	100	NORMAL	100
12:55:29	NORMAL	100	NORMAL	100
12:55:30	NORMAL	100	NORMAL	100
12:55:31	NORMAL	100	NORMAL	100
12:55:32	NORMAL	100	NORMAL	100
12:55:33	NORMAL	100	NORMAL	100
12:55:34	NORMAL	100	NORMAL	100
12:55:35	NORMAL	100	NORMAL	100
12:55:36	NORMAL	100	NORMAL	100
12:55:37	NORMAL	100	NORMAL	100
12:55:38	NORMAL	100	NORMAL	100
12:55:39	NORMAL	100	NORMAL	100
12:55:40	NORMAL	100	NORMAL	100

Case 4:09-cv-01193 Document 343-13 Filed in TXSD on 04/04/12 Page 36 of 76

From: Berger, Ron K (Manatee) <ron.berger@bp.com>
Sent: Tuesday, August 19, 2008 11:43 AM
To: Cotton, Steven L <Steven.Cotton@BP.com>; Snow, Jeff R <Jeff.Snow@BP.com>
Cc: Chan, Roy <Roy.Chan@BP.com>; Young, Brian J <Brian.J.Young@BP.com>; Oza, Nita <Nita.Oza@BP.com>
Subject: RE: 122 Info

this sounds like the dc114/113 problem.

From: Furneaux, Dale [mailto:Dale.Furneaux@fmctl.com]
Sent: Tuesday, August 19, 2008 10:10 AM
To: Berger, Ron K (Manatee); Velasquez, Roy (Technip); Leal, JJ (FMC); HARDEE, ROBERT; Bristol, Erik; Cotton, Steven L; Snow, Jeff R
Cc: Chan, Roy; Young, Brian J; Oza, Nita
Subject: RE: 122 Info

Ron,

Whoa, it looks like the MVI modules that connect to the SCU are disconnected or they are trying to connect and disconnecting again. Check the MVI interface, also make sure the Ethernet cables in the PMC connection (SCU) are plugged fully in. Also check the switch that hooks the MVI's to the SBC (TPU's) boards. Basically the Honeywell system is not connected to the SBC boards, so any commands that came through interface 10.13.1.1 and 10.12.1.1 will not work.

Regards,

Dale Furneaux
FMC Technologies
Product Engineer
E: dale.furneaux@fmcti.com | P: 281.591.8016 | F: 281.405.4972

This communication (and/or the documents accompanying it) may contain confidential information belonging to the sender or intended recipient. The information is intended solely for the use of the individual or entity named above. If you are not the intended recipient, you are hereby notified that any disclosure, copying, distribution or the taking of any action in reliance on the contents of this information is strictly prohibited. If you receive this communication in error, please notify us immediately by telephone to arrange for the return of the documents.

From: Berger, Ron K (Manatee) [mailto:ron.berger@bp.com]
Sent: Tuesday, August 19, 2008 8:36 AM
To: Velasquez, Roy (Technip); Leal, JJ; Furneaux, Dale; HARDEE, ROBERT; Bristol, Erik; Cotton, Steven L (Steven.Cotton@BP.com); Snow, Jeff R
Cc: Chan, Roy (Roy.Chan@BP.com); Young, Brian J (Brian.J.Young@BP.com); Nita.Oza@bp.com
Subject: FW: 122 Info

Below came out of smart tool log this am. Also attached are some operator notes with issues on 113/114.

```
WARNING   2008-08-18 20:18:51 SM    SPCU C2 SM 1B~line1B-SEM S132-P --- SEM time synch failed ---
INFO      2008-08-18 20:18:52 PCS   10.13.1.1 SCU interface 2.GIOStd --- SCU disconnected ---
INFO      2008-08-18 20:18:52 PCS   10.12.1.1 SCU interface 2.GIOStd --- SCU disconnected ---
WARNING   2008-08-18 20:18:55 SM    SPCU C2 SM 2A~line4A-SEM S101-W --- SEM time synch failed ---
WARNING   2008-08-18 20:18:55 SM    SPCU C2 SM 1B~line1B-SEM S131-P --- SEM time synch failed ---
WARNING   2008-08-18 20:18:55 SM    SPCU C2 SM 2A~line6A-SEM S133-P --- SEM time synch failed ---
WARNING   2008-08-18 20:18:55 SM    SPCU C2 SM 1A~line1A-SEM S131-P --- SEM time synch failed ---
WARNING   2008-08-18 20:18:53 SM    SPCU C2 SM 2A~line4A-SEM S101-W --- SEM time synch failed ---
WARNING   2008-08-18 20:18:53 SM    SPCU C2 SM 2A~line6A-SEM S134-P --- SEM time synch failed ---
WARNING   2008-08-18 20:18:53 SM    SPCU C2 SM 1A~line1A-SEM S132-P --- SEM time synch failed ---
WARNING   2008-08-18 20:19:53 SM    SPCU C2 SM 1B~line1B-SEM S132-P --- SEM time synch failed ---
WARNING   2008-08-18 20:19:03 SM    SPCU C2 SM 2A~line4A-SEM S101-W --- SEM time synch failed ---
WARNING   2008-08-18 20:19:04 SM    SPCU C2 SM 2A~line6A-SEM S133-P --- SEM time synch failed ---
WARNING   2008-08-18 20:19:04 SM    SPCU C2 SM 1A~line1A-SEM S131-P --- SEM time synch failed ---
WARNING   2008-08-18 20:19:04 SM    SPCU C2 SM 1B~line1B-SEM S131-P --- SEM time synch failed ---
WARNING   2008-08-18 20:19:02 SM    SPCU C2 SM 2A~line4A-SEM S101-W --- SEM time synch failed ---
WARNING   2008-08-18 20:19:03 SM    SPCU C2 SM 1B~line1B-SEM S132-P --- SEM time synch failed ---
WARNING   2008-08-18 20:19:02 SM    SPCU C2 SM 2A~line6A-SEM S134-P --- SEM time synch failed ---
WARNING   2008-08-18 20:19:02 SM    SPCU C2 SM 1A~line1A-SEM S132-P --- SEM time synch failed ---
WARNING   2008-08-18 20:19:12 SM    SPCU C2 SM 2A~line6A-SEM S133-P --- SEM time synch failed ---
WARNING   2008-08-18 20:19:12 SM    SPCU C2 SM 1A~line1A-SEM S131-P --- SEM time synch failed ---
WARNING   2008-08-18 20:19:12 SM    SPCU C2 SM 1B~line1B-SEM S131-P --- SEM time synch failed ---
WARNING   2008-08-18 20:19:12 SM    SPCU C2 SM 2A~line4A-SEM S101-W --- SEM time synch failed ---
WARNING   2008-08-18 20:19:11 SM    SPCU C2 SM 1B~line1B-SEM S132-P --- SEM time synch failed ---
WARNING   2008-08-18 20:19:11 SM    SPCU C2 SM 2A~line6A-SEM S134-P --- SEM time synch failed ---
WARNING   2008-08-18 20:19:11 SM    SPCU C2 SM 1A~line1A-SEM S132-P --- SEM time synch failed ---
WARNING   2008-08-18 20:19:11 SM    SPCU C2 SM 2A~line4A-SEM S101-W --- SEM time synch failed ---
INFO      2008-08-18 20:19:15 PCS   10.14.1.1 SCU interface 2.GIOStd --- SCU connected --- from 149.184.13.151:2147

INFO      2008-08-18 20:19:20 PCS   10.12.1.1 SCU interface 2.GIOStd --- SCU connected --- from 149.184.13.151:2145

INFO      2008-08-18 20:19:20 PCS   10.13.1.1 SCU interface 2.GIOStd --- SCU connected --- from 149.184.13.151:2148

WARNING   2008-08-18 20:19:15 SM    SPCU C2 SM 2A~line6A-SEM S133-P --- SEM time synch failed ---
WARNING   2008-08-18 20:19:15 SM    SPCU C2 SM 1B~line1B-SEM S131-P --- SEM time synch failed ---
WARNING   2008-08-18 20:19:15 SM    SPCU C2 SM 1A~line1A-SEM S131-P --- SEM time synch failed ---
WARNING   2008-08-18 20:19:16 SM    SPCU C2 SM 2A~line4A-SEM S101-W --- SEM time synch failed ---
INFO      2008-08-18 20:19:22 PCS   10.13.1.1 SCU interface 2.GIOStd --- SCU disconnected ---
INFO      2008-08-18 20:19:23 PCS   10.14.1.1 SCU interface 2.GIOStd --- SCU disconnected ---
INFO      2008-08-18 20:19:22 PCS   10.12.1.1 SCU interface 2.GIOStd --- SCU disconnected ---
WARNING   2008-08-18 20:19:25 SM    SPCU C2 SM 2A~line6A-SEM S134-P --- SEM time synch failed ---
```

```
WARNING     2008-08-18 20:19:25 SM          SPCU C2 SM 1A~line1A-SEM S132-P --- SEM time synch failed ---
WARNING     2008-08-18 20:19:25 SM          SPCU C2 SM 1B~line1B-SEM S132-P --- SEM time synch failed ---
INFO        2008-08-18 20:19:25 PCS         10.12.1.1 SCU interface 2.GIOStd --- SCU connected --- from 149.184.13.151:2155

INFO        2008-08-18 20:19:25 PCS         10.13.1.1 SCU interface 2.GIOStd --- SCU connected --- from 149.184.13.151:2156

INFO        2008-08-18 20:19:26 PCS         10.14.1.1 SCU interface 2.GIOStd --- SCU connected --- from 149.184.13.151:2157

WARNING     2008-08-18 20:19:26 SM          SPCU C2 SM 2A~line4A-SEM S101-W --- SEM time synch failed ---
INFO        2008-08-18 20:19:27 PCS         10.13.1.1 SCU interface 2.GIOStd --- SCU disconnected ---
INFO        2008-08-18 20:19:27 PCS         10.12.1.1 SCU interface 2.GIOStd --- SCU disconnected ---
INFO        2008-08-18 20:19:23 PCS         10.14.1.1 SCU interface 2.GIOStd --- SCU disconnected ---
WARNING     2008-08-18 20:19:24 SM          SPCU C2 SM 1B~line1B-SEM S131-P --- SEM time synch failed ---
WARNING     2008-08-18 20:19:24 SM          SPCU C2 SM 2A~line6A-SEM S133-P --- SEM time synch failed ---
WARNING     2008-08-18 20:19:24 SM          SPCU C2 SM 1A~line1A-SEM S131-P --- SEM time synch failed ---
WARNING     2008-08-18 20:19:25 SM          SPCU C2 SM 2A~line4A-SEM S101-W --- SEM time synch failed ---
INFO        2008-08-18 20:19:30 PCS         10.13.1.1 SCU interface 2.GIOStd --- SCU connected --- from 149.184.13.151:2165

INFO        2008-08-18 20:19:30 PCS         10.12.1.1 SCU interface 2.GIOStd --- SCU connected --- from 149.184.13.151:2164

INFO        2008-08-18 20:19:26 PCS         10.14.1.1 SCU interface 2.GIOStd --- SCU connected --- from 149.184.13.151:2166

INFO        2008-08-18 20:19:32 PCS         10.12.1.1 SCU interface 2.GIOStd --- SCU disconnected ---
INFO        2008-08-18 20:19:32 PCS         10.13.1.1 SCU interface 2.GIOStd --- SCU disconnected ---
INFO        2008-08-18 20:19:28 PCS         10.14.1.1 SCU interface 2.GIOStd --- SCU disconnected ---
WARNING     2008-08-18 20:19:28 SM          SPCU C2 SM 2A~line6A-SEM S134-P --- SEM time synch failed ---
```

<<RE: DC-113 SEM B>> <<Well Gauges>>

From: Berger, Ron K (Manatee)
Sent: Tuesday, August 19, 2008 7:52 AM
To: Velamprambil, Benoj; ERIK.BRISTOL@fmcti.com; Leal, JJ (FMC); 'Furneaux, Dale'; HARDEE, ROBERT
Cc: Chan, Roy (Roy.Chan@BP.com); Cotton, Steven L (Steven.Cotton@BP.com); Young, Brian J (Brian.J.Young@BP.com); Nita.Oza@BP.com; Snow, Jeff R

Subject: FW: 122 Info

benoj,

see below. 5A line breaker is and has been closed. Currently modem does not appear to have activity. i'm getting the complete set of log files (smarttool) from yesterday. i've instructed them not to touch the SBC until i hear from ya'll. Please let me know what your assessment is with the NEW data I have provided below ASAP.

Lets recap what we know.

- DC122 shut-in at 7:20 am on 8/10 for unknown causes. No manual or automatic shut-down sequences were logged by honeywell as sent to the well at that time. Smart tool server / client was not running at that time.
- According to subsea OPC data, the PIV, PWV, CIDV1, CIDV3, SCSSV1 and SCSSV2 DCVs vented. All other valves remained in same state (PMV and AMV remained open through shutin).
- There was a Subsea Comm Fault coincident at the time of shut-in on Line A. It's possible the SBC was reset about 10 minutes after shut-in and the MVI card was not (according to event logs).
- We opened the Line 5A breaker later that morning to mitigate any other potential shut-ins and restarted well on Line B
- Tuesday, Benoj was at Westlake. We started Smart tool, closed breaker, reset SBC and MVI and re-established communication down Line A. No problems were identified. Left Smart tool running.
- On 8/15 we had 3 intermittent subsea comm alarms on Line A. Benoj came to Westlake again. We did not find anything abnormal at that time. The fault below was later identified in smart tool (i.e. CKOS150 Driver)
- Several intermittent subsea comm alarms occurred through the weekend of 8/16 (same CKOS150 Driver fault).
- Subsea comm, Line A on DC122 went into continuous alarm on 8/17 at 21:20
- LIM went off at 8/15 at 21:57 so that seems to be a red herring. We have not reset the alarms in the cabinet yet but are working to do so.
- The MVI card thinks it is talking to SBC through all these events.
- This problem is only on DC122, Line A
- The 5A breaker is currently closed and did not trip all week.
- Intermittent comm errors associated with this line had the following error in smart tool logs (over a dozen times over last week since smart tool was started on 8/12)

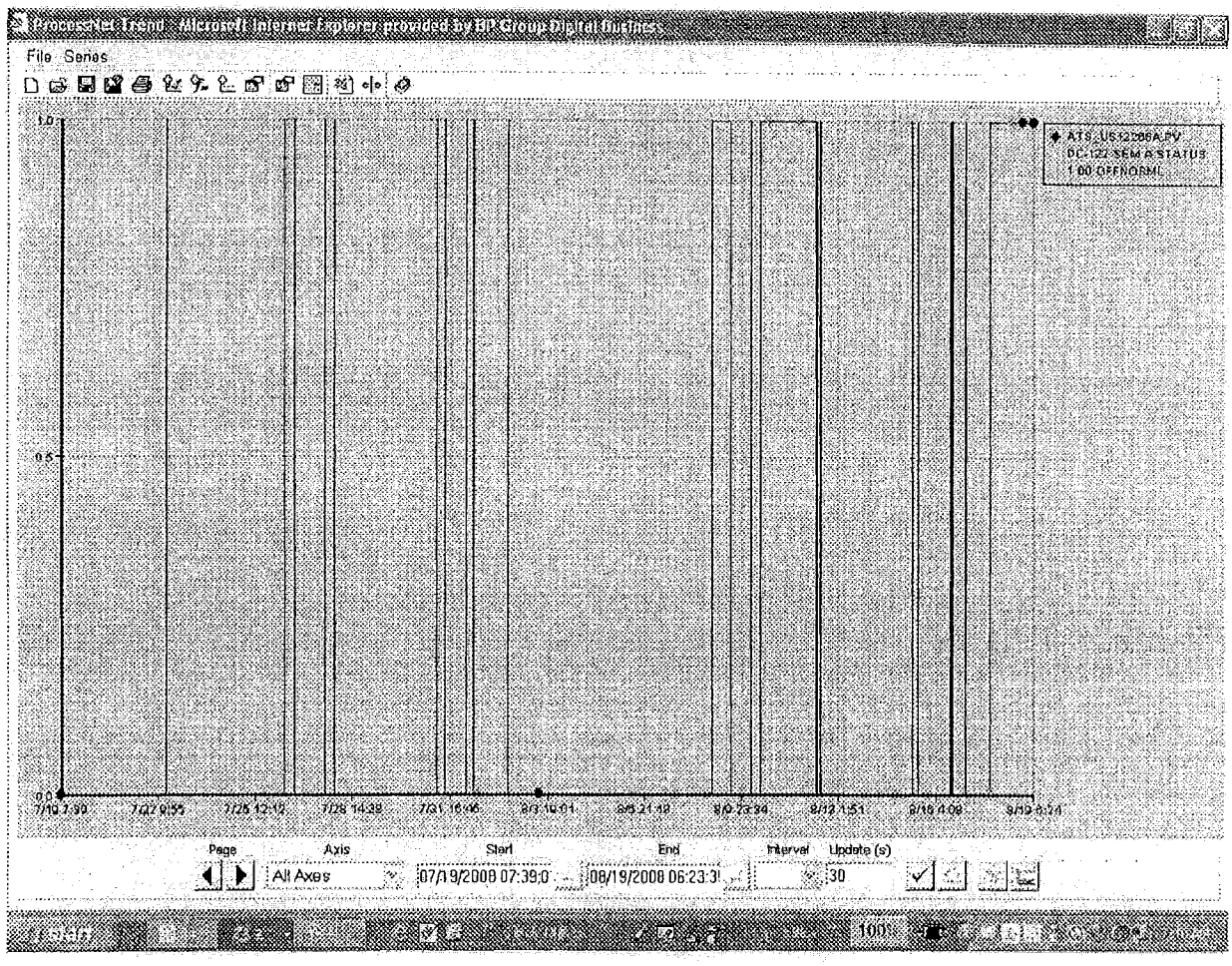
```
ERROR       2008-08-15 09:56:11 SM          10.3.1.1 CKOS150Driver --- No reply --- KOS150-Update : line5A-SEM S122-P
ERROR       2008-08-15 09:56:11 SM          SPCU C1 SM 2A~line5A-SEM S122-P --- SEM-MODEM High level communication: BAD ---

WARNING     2008-08-15 09:56:08 SM          SPCU C2 SM 1A~line1A-SEM S132-P --- SEM time synch failed ---
WARNING     2008-08-15 09:56:08 SM          SPCU C2 SM 2A~line6A-SEM S134-P --- SEM time synch failed ---
WARNING     2008-08-15 09:56:28 SM          SPCU C2 SM 2A~line6A-SEM S134-P --- SEM time synch failed ---
WARNING     2008-08-15 09:56:28 SM          SPCU C2 SM 2A~line4A-SEM S101-W --- SEM time synch failed ---
WARNING     2008-08-15 09:56:28 SM          SPCU C2 SM 1A~line1A-SEM S132-P --- SEM time synch failed ---
WARNING     2008-08-15 09:56:28 SM          SPCU C2 SM 1B~line1B-SEM S132-P --- SEM time synch failed ---
WARNING     2008-08-15 09:56:28 SM          SPCU C2 SM 2B~line6B-SEM S134-P --- SEM time synch failed ---
WARNING     2008-08-15 09:56:28 SM          SPCU C2 SM 2B~line4B-SEM S101-W --- SEM time synch failed ---
WARNING     2008-08-15 09:56:27 SM          SPCU C2 SM 2A~line6A-SEM S133-P --- SEM time synch failed ---
WARNING     2008-08-15 09:56:27 SM          SPCU C2 SM 1A~line1A-SEM S131-P --- SEM time synch failed ---
WARNING     2008-08-15 09:56:27 SM          SPCU C2 SM 2A~line4A-SEM S101-W --- SEM time synch failed ---
WARNING     2008-08-15 09:56:27 SM          SPCU C2 SM 1B~line1B-SEM S131-P --- SEM time synch failed ---
WARNING     2008-08-15 09:56:27 SM          SPCU C2 SM 2B~line6B-SEM S133-P --- SEM time synch failed ---
```

```
WARNING    2008-08-15 09:56:27 SM        SPCU C2 SM 2B~line4B-SEM S101~W --- SEM time synch failed ---
INFO       2008-08-15 09:56:31 SM        10.3.1.1 InitSequencer --- FCB synchronised --- SEM# 213: SPCU C1 SM 2A~line5A-SEM
S122-P

INFO       2008-08-15 09:56:31 SM        10.3.1.1 InitSequencer --- Sequence item started --- SEM# 213: SPCU C1 SM 2A~line5A-
SEM S122-P, Item #1: Start Alternative Program

INFO       2008-08-15 09:56:31 SM        10.3.1.1 InitSequencer --- Sequence item executed --- SEM# 213: SPCU C1 SM 2A~line5A-
SEM S122-P, Item #1

INFO       2008-08-15 09:56:31 SM        10.3.1.1 InitSequencer --- Delay after sequence item --- SEM# 213: SPCU C1 SM
2A~line5A-SEM S122-P, Item #1 delay: 30.0 seconds
```

- I went back again into Smart Tool log on 8/17 at 21:20 and found the following.

```
ERROR    2008-08-17 21:20:36 SM    SPCU C1 SM 2A~line5A-SEM S122-P~Process sensors~DH, DHI-112 Schlumberger~DH-A, Lower DHPT Gauge -- No reply -- Could not
set DH coefficients, error code: 8603

WARNING  2008-08-17 21:20:32 SM    SPCU C2 SM 2A~line4A-SEM S101-W --- SEM time synch failed ---
WARNING  2008-08-17 21:20:32 SM    SPCU C2 SM 2B~line4B-SEM S101-W --- SEM time synch failed ---
WARNING  2008-08-17 21:20:32 SM    SPCU C2 SM 1A~line1A-SEM S132-P --- SEM time synch failed ---
WARNING  2008-08-17 21:20:32 SM    SPCU C2 SM 2A~line6A-SEM S134-P --- SEM time synch failed ---
WARNING  2008-08-17 21:20:32 SM    SPCU C2 SM 2B~line6B-SEM S134-P --- SEM time synch failed ---
WARNING  2008-08-17 21:20:32 SM    SPCU C2 SM 1B~line1B-SEM S132-P --- SEM time synch failed ---
INFO     2008-08-17 21:20:40 SM    SPCU C1 SM 2A~line5A-SEM S122-P -- SEM-MODEM High level communication: OK ---

ERROR    2008-08-17 21:20:40 SM    SPCU C1 SM 2A~line5A-SEM S122-P -- SEM-MODEM High level communication: BAD --

WARNING  2008-08-17 21:20:41 SM    SPCU C2 SM 1A~line1A-SEM S131-P --- SEM time synch failed ---
WARNING  2008-08-17 21:20:41 SM    SPCU C2 SM 2A~line6A-SEM S133-P --- SEM time synch failed ---
WARNING  2008-08-17 21:20:41 SM    SPCU C2 SM 2B~line6B-SEM S133-P --- SEM time synch failed ---
WARNING  2008-08-17 21:20:41 SM    SPCU C2 SM 1B~line1B-SEM S131-P --- SEM time synch failed ---
WARNING  2008-08-17 21:20:42 SM    SPCU C2 SM 2B~line4B-SEM S101-W --- SEM time synch failed ---
WARNING  2008-08-17 21:20:42 SM    SPCU C2 SM 2A~line4A-SEM S101-W --- SEM time synch failed ---
INFO     2008-08-17 21:20:45 SM    10.3.1.1 InitSequencer -- FCB synchronised -- SEM# 213: SPCU C1 SM 2A~line5A-SEM S122-P

INFO     2008-08-17 21:20:45 SM    10.3.1.1 InitSequencer -- Sequence item started -- SEM# 213: SPCU C1 SM 2A~line5A-SEM S122-P, Item #1: Start Alternative Program

WARNING  2008-08-17 21:20:40 SM    SPCU C2 SM 1A~line1A-SEM S132-P -- SEM time synch failed --
WARNING  2008-08-17 21:20:40 SM    SPCU C2 SM 2A~line6A-SEM S134-P -- SEM time synch failed --
INFO     2008-08-17 21:20:46 SM    10.3.1.1 InitSequencer -- Sequence item executed -- SEM# 213: SPCU C1 SM 2A~line5A-SEM S122-P, Item #1

INFO     2008-08-17 21:20:46 SM    10.3.1.1 InitSequencer --- Delay after sequence item -- SEM# 213: SPCU C1 SM 2A~line5A-SEM S122-P, Item #1 delay: 30.0 seconds
```

- We have had numerous alarms on Line A for DC122. Below is a snapshot over last month of the subea comm status.



Regards,

ron

From: Snow, Jeff R
Sent: Monday, August 18, 2008 6:05 PM
To: Berger, Ron K (Manatee); Herrmann, Douglas T
Cc: Colton, Steven L; Byrd, Wanda J; Sun, Henry (TX57)
Subject: FW: 122 Info

Ron,

Line 5A breaker is closed, yet there's no activity on one of the modems in the rack. This is apparently the same thing that has been occurring. I believe that the other guys had been opening and then closing the line 5A breaker and resetting the SBC to reinitialize common with the SCU.

Doug,

Are we going to need a permit to hit the reset that Ron talks about in the original email of this thread to reset the LIM alarm?

Jeff

From: Sun, Henry (TX57) [mailto:Henry.Sun2@honeywell.com]
Sent: Monday, August 18, 2008 4:21 PM
To: Berger, Ron K (Manatee); Snow, Jeff R
Cc: Cotton, Steven L; Herrmann, Douglas T; Byrd, Wanda J
Subject: RE: 122 Info

Ron,

Please see attached spreadsheet. I did not plot the graphs because I'm not sure how you would like to display them since there are many data; but all the data you need should be there.

Thanks,

Henry

From: Berger, Ron K (Manatee) [mailto:ron.berger@bp.com]
Sent: Monday, August 18, 2008 3:33 PM
To: Sun, Henry (TX57); Snow, Jeff R
Cc: Cotton, Steven L (Steven.Cotton@BP.com); Herrmann, Douglas T (HERRMADT@BP.com); Wanda.Byrd@bp.com
Subject: 122 Info

Jeff and / or henry,

Are the LIMM values (for the Bender in alarm) stored in PHD? Can I get an excel spreadsheet with all the LIMM values for that Bender over the last two weeks? With it, can you also plot the Line A Comm status for DC122? I would do this myself, but I don't currently get the LIMM passed into Processnet (something I need to change).

If the LIMM values are not in PHD how do we start getting them into PHD?

Jeff, I need you also to go into the cabinet again, and check the Line 5A breaker. Let me know if it is Open or Closed. It's possible it opened when the LIMM went off.

Finally, currently FMC is saying we can reset the alarm on the LIMM by the Alarm reset at the top of the cabinet. This button resets all the alarms in the cabinet and nothing else. They are suggesting to reset it and see if the LIMM trips again. However, the 5A breaker needs to be closed first.

Ron

From: Berger, Ron K (Manatee)
Sent: Tuesday, August 19, 2008 8:52:28 AM
To: Velamprambil, Benoj; ERIK.BRISTOL@fmcti.com; Leal, JJ (FMC); Furneaux, Dale (FMC); HARDEE, ROBERT
CC: Chan, Roy; Cotton, Steven L; Young, Brian J; Oza, Nita; Snow, Jeff R
Subject: FW: 122 Info

Attachments: Picture (Device Independent Bitmap)

benoj,

see below. 5A line breaker is and has been closed. Currently modem does not appear to have activity. i'm getting the complete set of log files (smarttool) from yesterday. i've instructed them not to touch the SBC until i hear from ya'll. Please let me know what your assessment is with the NEW data I have provided below ASAP.

Lets recap what we know.

- DC122 shut-in at 7:20 am on 8/10 for unknown causes. No manual or automatic shut-down sequences were logged by honeywell as sent to the well at that time. Smart tool server / client was not running at that time.
- According to subsea OPC data, the PIV, PWV, CIDV1, CIDV3, SCSSV1 and SCSSV2 DCVs vented. All other valves remained in same state (PMV and AMV remained open through shutin).
- There was a Subsea Comm Fault coincident at the time of shut-in on Line A. It's possible the SBC was reset about 10 minutes after shut-in and the MVI card was not (according to event logs).
- We opened the Line 5A breaker later that morning to mitigate any other potential shut-ins and restarted well on Line B
- Tuesday, Benoj was at Westlake. We started Smart tool, closed breaker, reset SBC and MVI and re-established communication down Line A. No problems were identified. Left Smart tool running.
- On 8/15 we had 3 intermittent subsea comm alarms on Line A. Benoj came to Westlake again. We did not find anything abnormal at that time. The fault below was later identified in smart tool (i.e. CKOS150 Driver)
- Several intermittent subsea comm alarms occurred through the weekend of 8/16 (same CKOS150 Driver fault).
- Subsea comm, Line A on DC122 went into continuous alarm on 8/17 at 21:20
- LIM went off at 8/15 at 21:57 so that seems to be a red herring. We have not reset the alarms in the cabinet yet but are working to do so.
- The MVI card thinks it is talking to SBC through all these events.
- This problem is only on DC122, Line A
- The 5A breaker is currently closed and did not trip all week.
- Intermittent comm errors associated with this line had the following error in smart tool logs (over a dozen times over last week since smart tool was started on 8/12)

```
ERROR      2008-08-15 09:56:11 SM          10.3.1.1 CKOS150Driver --- No reply --- KOS150-
Update : line5A-SEM S122-P
ERROR      2008-08-15 09:56:11 SM          SPCU C1 SM 2A~line5A-SEM S122-P --- SEM-MODEM
High level communication: BAD ---
WARNING    2008-08-15 09:56:08 SM          SPCU C2 SM 1A~line1A-SEM S132-P --- SEM time
synch failed ---
WARNING    2008-08-15 09:56:08 SM          SPCU C2 SM 2A~line6A-SEM S134-P --- SEM time
synch failed ---
WARNING    2008-08-15 09:56:28 SM          SPCU C2 SM 2A~line6A-SEM S134-P --- SEM time
synch failed ---
WARNING    2008-08-15 09:56:28 SM          SPCU C2 SM 2A~line4A-SEM S101-W --- SEM time
synch failed ---
WARNING    2008-08-15 09:56:28 SM          SPCU C2 SM 1A~line1A-SEM S132-P --- SEM time
synch failed ---
WARNING    2008-08-15 09:56:28 SM          SPCU C2 SM 1B~line1B-SEM S132-P --- SEM time
synch failed ---
WARNING    2008-08-15 09:56:28 SM          SPCU C2 SM 2B~line6B-SEM S134-P --- SEM time
synch failed ---
WARNING    2008-08-15 09:56:28 SM          SPCU C2 SM 2B~line4B-SEM S101-W --- SEM time
synch failed ---
WARNING    2008-08-15 09:56:27 SM          SPCU C2 SM 2A~line6A-SEM S133-P --- SEM time
synch failed ---
WARNING    2008-08-15 09:56:27 SM          SPCU C2 SM 1A~line1A-SEM S131-P --- SEM time
```

```
synch failed ---
WARNING    2008-08-15 09:56:27 SM          SPCU C2 SM 2A~line4A-SEM S101-W --- SEM time
synch failed ---
WARNING    2008-08-15 09:56:27 SM          SPCU C2 SM 1B~line1B-SEM S131-P --- SEM time
synch failed ---
WARNING    2008-08-15 09:56:27 SM          SPCU C2 SM 2B~line6B-SEM S133-P --- SEM time
synch failed ---
WARNING    2008-08-15 09:56:27 SM          SPCU C2 SM 2B~line4B-SEM S101-W --- SEM time
synch failed ---
INFO       2008-08-15 09:56:31 SM          10.3.1.1 InitSequencer --- FCB synchronised ---
SEM# 213: SPCU C1 SM 2A~line5A-SEM S122-P
INFO       2008-08-15 09:56:31 SM          10.3.1.1 InitSequencer --- Sequence item
started --- SEM# 213: SPCU C1 SM 2A~line5A-SEM S122-P, Item #1: Start Alternative Program
INFO       2008-08-15 09:56:31 SM          10.3.1.1 InitSequencer --- Sequence item
executed --- SEM# 213: SPCU C1 SM 2A~line5A-SEM S122-P, Item #1
INFO       2008-08-15 09:56:31 SM          10.3.1.1 InitSequencer --- Delay after sequence
item --- SEM# 213: SPCU C1 SM 2A~line5A-SEM S122-P, Item #1 delay: 30.0 seconds
```

- I went back again into Smart Tool log on 8/17 at 21:20 and found the following.

ERROR 2008-08-17 21:20:36 SM SPCU C1 SM 2A~line5A-SEM S122-P~Process sensors~DH, DHI-112 Schlumberger~DH-A, Lower DHPT Gauge --- No reply --- Could not set DH coefficients, error code: 8603
WARNING 2008-08-17 21:20:32 SM SPCU C2 SM 2A~line4A-SEM S101-W --- SEM time synch failed ---
WARNING 2008-08-17 21:20:32 SM SPCU C2 SM 2B~line4B-SEM S101-W --- SEM time synch failed ---
WARNING 2008-08-17 21:20:32 SM SPCU C2 SM 1A~line1A-SEM S132-P --- SEM time synch failed ---
WARNING 2008-08-17 21:20:32 SM SPCU C2 SM 2A~line6A-SEM S134-P --- SEM time synch failed ---
WARNING 2008-08-17 21:20:32 SM SPCU C2 SM 2B~line6B-SEM S134-P --- SEM time synch failed ---
WARNING 2008-08-17 21:20:32 SM SPCU C2 SM 1B~line1B-SEM S132-P --- SEM time synch failed ---
INFO 2008-08-17 21:20:40 SM SPCU C1 SM 2A~line5A-SEM S122-P --- SEM-MODEM High level communication: OK ---
ERROR 2008-08-17 21:20:40 SM SPCU C1 SM 2A~line5A-SEM S122-P --- SEM-MODEM High level communication: BAD ---
WARNING 2008-08-17 21:20:41 SM SPCU C2 SM 1A~line1A-SEM S131-P --- SEM time synch failed ---
WARNING 2008-08-17 21:20:41 SM SPCU C2 SM 2A~line6A-SEM S133-P --- SEM time synch failed ---
WARNING 2008-08-17 21:20:41 SM SPCU C2 SM 2B~line6B-SEM S133-P --- SEM time synch failed ---
WARNING 2008-08-17 21:20:41 SM SPCU C2 SM 1B~line1B-SEM S131-P --- SEM time synch failed ---
WARNING 2008-08-17 21:20:42 SM SPCU C2 SM 2B~line4B-SEM S101-W --- SEM time synch failed ---
WARNING 2008-08-17 21:20:42 SM SPCU C2 SM 2A~line4A-SEM S101-W --- SEM time synch failed ---
INFO 2008-08-17 21:20:45 SM 10.3.1.1 InitSequencer --- FCB synchronised --- SEM# 213: SPCU C1 SM 2A~line5A-SEM S122-P
INFO 2008-08-17 21:20:45 SM 10.3.1.1 InitSequencer --- Sequence item started --- SEM# 213: SPCU C1 SM 2A~line5A-SEM S122-P, Item #1: Start Alternative Program
WARNING 2008-08-17 21:20:40 SM SPCU C2 SM 1A~line1A-SEM S132-P --- SEM time synch failed ---
WARNING 2008-08-17 21:20:40 SM SPCU C2 SM 2A~line6A-SEM S134-P --- SEM time synch failed ---
INFO 2008-08-17 21:20:46 SM 10.3.1.1 InitSequencer --- Sequence item executed --- SEM# 213: SPCU C1 SM 2A~line5A-SEM S122-P, Item #1
INFO 2008-08-17 21:20:46 SM 10.3.1.1 InitSequencer --- Delay after sequence item --- SEM# 213: SPCU C1 SM 2A~line5A-SEM S122-P, Item #1 delay: 30.0 seconds

- We have had numerous alarms on Line A for DC122. Below is a snapshot over last month of the subea comm status.

Regards,

ron

From: Snow, Jeff R
Sent: Monday, August 18, 2008 6:05 PM
To: Berger, Ron K (Manatee); Herrmann, Douglas T
Cc: Cotton, Steven L; Byrd, Wanda J; Sun, Henry (TX57)
Subject: FW: 122 Info

Ron,

Line 5A breaker is closed, yet there's no activity on one of the modems in the rack. This is apparently the same thing that has been occurring. I believe that the other guys had been opening and then closing the line 5A breaker and resetting the SBC to reinitialize common with the SCU.

Doug,

Are we going to need a permit to hit the reset that Ron talks about in the original email of this thread to reset the LIM alarm?

Jeff

From: Sun, Henry (TX57) [mailto:Henry.Sun2@honeywell.com]
Sent: Monday, August 18, 2008 4:21 PM
To: Berger, Ron K (Manatee); Snow, Jeff R
Cc: Cotton, Steven L; Herrmann, Douglas T; Byrd, Wanda J
Subject: RE: 122 Info

Ron,

Please see attached spreadsheet. I did not plot the graphs because I'm not sure how you would like to display them since there are many data; but all the data you need should be there.

Thanks,

Henry

From: Berger, Ron K (Manatee) [mailto:ron.berger@bp.com]
Sent: Monday, August 18, 2008 3:33 PM
To: Sun, Henry (TX57); Snow, Jeff R
Cc: Cotton, Steven L (Steven.Cotton@BP.com); Herrmann, Douglas T (HERRMADT@BP.com); Wanda.Byrd@bp.com
Subject: 122 Info

Jeff and / or henry,

Are the LIMM values (for the Bender in alarm) stored in PHD? Can I get an excel spreadsheet with all the LIMM values for that Bender over the last two weeks? With it, can you also plot the Line A Comm status for DC122? I would do this myself, but I don't currently get the LIMM passed into Processnet (something I need to change).

If the LIMM values are not in PHD how do we start getting them into PHD?

Jeff, I need you also to go into the cabinet again, and check the Line 5A breaker. Let me know if it is Open or Closed. It's possible it opened when the LIMM went off.

Finally, currently FMC is saying we can reset the alarm on the LIMM by the Alarm reset at the top of the cabinet. This button resets all the alarms in the cabinet and nothing else. They are suggesting to reset it and see if the LIMM trips again. However, the 5A breaker needs to be closed first.

Ron

From: Chan, Roy
Sent: Wednesday, August 20, 2008 9:27:24 AM
To: Berger, Ron K (Manatee)
CC: Fleming, Ray H; Oza, Nita
Subject: RE: 122 Info

Ron,

Sure, I can start generate a spreadsheet as you mentioned. I think it is a good idea to have automation involve with the testing. I would suggest that to make it as an operator training so that they can perform some basis troubleshooting in the future.

I am planning on going to FMC this afternoon to follow up with the followings if Brian and/or Dale are available.

- Gather SBC's serial number and current status.
- Check on Norway progress
- Meet with the RCA team
- Check on the test site and equipments.
- 113 AMV software change progress

Let me know if you think of anything I could ask them while I am at FMC.

Regards,

Roy
Office: +1 281 366-1131
Mobile:

From: Berger, Ron K (Manatee)
Sent: Wednesday, August 20, 2008 7:34 AM
To: Chan, Roy
Cc: Fleming, Ray H; Oza, Nita
Subject: FW: 122 Info

Roy,

I was hoping you could help us with a couple of things with your role. I think they will also help you. You may have started this already.

- We need a detailed log of all the controls issue events that we have had. We have tried to start one a while back but I suspect we need continuous involvement with someone such as yourselves to make it a useful tool. If you don't think this will help you let me know.
- We need a spreadsheet listing ALL the Atlantis SBC by serial number. That spreadsheet needs to track each board from cradle to grave. I don't want a spreadsheet with just failures. Lets get them all.
- Let me know your thoughts on the automation tech getting involved at FMC. We will have the Honeywell / subsea test kit available soon and he could help progress some testing. We just need to know what to do and the timing.

ron

From: Berger, Ron K (Manatee)
Sent: Wednesday, August 20, 2008 7:28 AM
To: Snow, Jeff R; Herrmann, Douglas T
Cc: Young, Brian J; Oza, Nita; Gipson, Les (Les.Gipson@BP.com); Mack, Michael R; Cotton, Steven L
Subject: RE: 122 Info

Jeff / Doug,

I think getting one of you guys (automation) involved in FMC houston would be a great opportunity to help fix the problem and learn more about the system. I seriously think ya'll need to elevate that proposal to the OIM. I'm not sure yet how we would make it work but I do think there is value. This SBC issue is a serious problem.

FMC is working the SBC issue. They do have a root cause team assembled and there is bp involvement. However, I can

say at this point I have not been impressed with the progress. With the board below, we have pulled 7 from the cabinets for either precautionary or known issues. 5 of those 7 are showing consistently repeatable problems. I think the cabinets only hold 12 boards total, so were past the 50% mark on failure rate.

Below is a summary of what we did / saw yesterday:

- We re-established communication to SEM A on DC122. We interrogated status buffers within the SCM and found a CPU RAM warning. The latter could be significant as there is a current product alert letter from FMC stating that 2 Atlantis SCMs have CAM RAM problems. CPU RAM problems have been known to cause "unwanted valve movements". However, the product alert we had only reference SCMs (subsea control module) that were on the beach (none offshore). We reset the warning and enable more diagnostics in Smart-Tool. Thus it's important to keep it running. Hopefully we will catch more in the coming days. According to FMC, they are thinking at this time, that all our issues on DC122 are SCM related.
- We did go back and find Smart Tool files for 10-Aug (i.e. when shut-in with DC122 occurred). Smart tool confirms that NO COMMANDS were sent down to the subsea well for shut-in at 7:20 am. There is very significant as it might make the CPU RAM issue above more of a suspect.
- We investigated the issues Wanda was having on DC113/DC114 and found that the SPCU 2 SBC 2B (SEM B) was not in Smart tool. This means the board had a failure of some sort and was not operating. This is extremely concerning for 2 points: 1) we have another SBC failure and 2) the MVI alarm did NOT catch this. Thus, at the moment, there is a failure mode within the SCPU that we are unable to detect and alarm. We need to resolve this ASAP (please elevate to the OIM). We need regulatory advice on this as well, as with this issue we are not in compliance with our ESD logic. We did tried to reset the SBC / MVI 2 times with no luck. We did not try to perform a hard reset at this time. We opened the breaker on this line since the board was not operating to ensure no unwanted effects.
- We investigated some subsea network errors that we observed on the 18th. There errors affected all the B side SBC. Henry with Honeywell is helping us investigate some more. Because these errors affected all the B side SBC, we are speculating there may have been a problem with their switch or network itself. This problem appears upstream of the SPCU. We will continue to monitor to see if it repeats again. If ya'll have any information concerning the B subsea network that may help with this, let me know.
- We reset the LIM Bender alarm. We did trace back all the IR reading about two weeks. They consistently read 11 MOHMs. PHD is checking for updates every 5 secs and we think the LIM value only changes every 5 minutes so we think we have good IR and that the alarms are nuisance. We still need to get to the root cause.

Ron

From: Snow, Jeff R
Sent: Tuesday, August 19, 2008 7:35 PM
To: Berger, Ron K (Manatee); Cotton, Steven L
Cc: Herrmann, Douglas T; Young, Brian J; Oza, Nita
Subject: RE: 122 Info
Importance: High

Ron,

Just wanted to follow up our phone conversation with an email. The symptoms that we're seeing with SPCU 2 SEM B SBC2B (I think I got that right) appear to be the same as what I observed several months ago when one of the other Motorola boards was changed out. What Aneet and I saw then was that the SBC was basically not booting up correctly and fully. Certain LEDs remain lit while others show no activity and the SBC is not visible on the system. Some time in the last week I either heard or read about FMC running into the same problem with some number of boards that were right off the shelf? This is the reason that I personally don't see the need to do a complete system power down and back up. Others may feel differently. I feel this problem goes directly to the SBC hardware or software that is running on it. Just my 2 cents.

Steve,

When is our system going to be set up at FMC for testing? What would it take to get an Ops automation guy working directly with FMC? I'm in no saying thinking that I could discover the problem, but direct communication with FMC while working with the system would be best in by opinion as well as offering the best time in the world to get a better understanding of how the FMC system operates.

Thanks,

Jeff

From: Berger, Ron K (Manatee)
Sent: Tuesday, August 19, 2008 8:36 AM
To: Velasquez, Roy (Technip); Leal, JJ (FMC); Furneaux, Dale (FMC); 'HARDEE, ROBERT'; 'ERIK.BRISTOL@fmcti.com'; Cotton, Steven L; Snow, Jeff R
Cc: Chan, Roy; Young, Brian J; Oza, Nita
Subject: FW: 122 Info

Below came out of smart tool log this am. Also attached are some operator notes with issues on 113/114.

```
WARNING    2008-08-18 20:18:51 SM        SPCU C2 SM 1B~line1B-SEM S132-P --- SEM time
synch failed ---
INFO       2008-08-18 20:18:52 PCS       10.13.1.1 SCU interface 2.GIOStd --- SCU
disconnected ---
INFO       2008-08-18 20:18:52 PCS       10.12.1.1 SCU interface 2.GIOStd --- SCU
disconnected ---
WARNING    2008-08-18 20:18:55 SM        SPCU C2 SM 2A~line4A-SEM S101-W --- SEM time
synch failed ---
WARNING    2008-08-18 20:18:55 SM        SPCU C2 SM 1B~line1B-SEM S131-P --- SEM time
synch failed ---
WARNING    2008-08-18 20:18:55 SM        SPCU C2 SM 2A~line6A-SEM S133-P --- SEM time
synch failed ---
WARNING    2008-08-18 20:18:55 SM        SPCU C2 SM 1A~line1A-SEM S131-P --- SEM time
synch failed ---
WARNING    2008-08-18 20:18:53 SM        SPCU C2 SM 2A~line4A-SEM S101-W --- SEM time
synch failed ---
WARNING    2008-08-18 20:18:53 SM        SPCU C2 SM 2A~line6A-SEM S134-P --- SEM time
synch failed ---
WARNING    2008-08-18 20:18:53 SM        SPCU C2 SM 1A~line1A-SEM S132-P --- SEM time
synch failed ---
WARNING    2008-08-18 20:18:53 SM        SPCU C2 SM 1B~line1B-SEM S132-P --- SEM time
synch failed ---
WARNING    2008-08-18 20:19:03 SM        SPCU C2 SM 2A~line4A-SEM S101-W --- SEM time
synch failed ---
WARNING    2008-08-18 20:19:04 SM        SPCU C2 SM 2A~line6A-SEM S133-P --- SEM time
synch failed ---
WARNING    2008-08-18 20:19:04 SM        SPCU C2 SM 1A~line1A-SEM S131-P --- SEM time
synch failed ---
WARNING    2008-08-18 20:19:04 SM        SPCU C2 SM 1B~line1B-SEM S131-P --- SEM time
synch failed ---
WARNING    2008-08-18 20:19:02 SM        SPCU C2 SM 2A~line4A-SEM S101-W --- SEM time
synch failed ---
WARNING    2008-08-18 20:19:03 SM        SPCU C2 SM 1B~line1B-SEM S132-P --- SEM time
synch failed ---
WARNING    2008-08-18 20:19:02 SM        SPCU C2 SM 2A~line6A-SEM S134-P --- SEM time
synch failed ---
WARNING    2008-08-18 20:19:02 SM        SPCU C2 SM 1A~line1A-SEM S132-P --- SEM time
synch failed ---
WARNING    2008-08-18 20:19:12 SM        SPCU C2 SM 2A~line6A-SEM S133-P --- SEM time
synch failed ---
WARNING    2008-08-18 20:19:12 SM        SPCU C2 SM 1A~line1A-SEM S131-P --- SEM time
synch failed ---
WARNING    2008-08-18 20:19:12 SM        SPCU C2 SM 1B~line1B-SEM S131-P --- SEM time
synch failed ---
WARNING    2008-08-18 20:19:12 SM        SPCU C2 SM 2A~line4A-SEM S101-W --- SEM time
synch failed ---
WARNING    2008-08-18 20:19:11 SM        SPCU C2 SM 1B~line1B-SEM S132-P --- SEM time
synch failed ---
WARNING    2008-08-18 20:19:11 SM        SPCU C2 SM 2A~line6A-SEM S134-P --- SEM time
synch failed ---
WARNING    2008-08-18 20:19:11 SM        SPCU C2 SM 1A~line1A-SEM S132-P --- SEM time
synch failed ---
```

```
WARNING    2008-08-18 20:19:11 SM        SPCU C2 SM 2A~line4A-SEM S101-W --- SEM time
synch failed ---
INFO       2008-08-18 20:19:15 PCS       10.14.1.1 SCU interface 2.GIOStd --- SCU
connected --- from 149.184.13.151:2147
INFO       2008-08-18 20:19:20 PCS       10.12.1.1 SCU interface 2.GIOStd --- SCU
connected --- from 149.184.13.151:2145
INFO       2008-08-18 20:19:20 PCS       10.13.1.1 SCU interface 2.GIOStd --- SCU
connected --- from 149.184.13.151:2148
WARNING    2008-08-18 20:19:15 SM        SPCU C2 SM 2A~line6A-SEM S133-P --- SEM time
synch failed ---
WARNING    2008-08-18 20:19:15 SM        SPCU C2 SM 1B~line1B-SEM S131-P --- SEM time
synch failed ---
WARNING    2008-08-18 20:19:15 SM        SPCU C2 SM 1A~line1A-SEM S131-P --- SEM time
synch failed ---
WARNING    2008-08-18 20:19:16 SM        SPCU C2 SM 2A~line4A-SEM S101-W --- SEM time
synch failed ---
INFO       2008-08-18 20:19:22 PCS       10.13.1.1 SCU interface 2.GIOStd --- SCU
disconnected ---
INFO       2008-08-18 20:19:23 PCS       10.14.1.1 SCU interface 2.GIOStd --- SCU
disconnected ---
INFO       2008-08-18 20:19:22 PCS       10.12.1.1 SCU interface 2.GIOStd --- SCU
disconnected ---
WARNING    2008-08-18 20:19:25 SM        SPCU C2 SM 2A~line6A-SEM S134-P --- SEM time
synch failed ---
WARNING    2008-08-18 20:19:25 SM        SPCU C2 SM 1A~line1A-SEM S132-P --- SEM time
synch failed ---
WARNING    2008-08-18 20:19:25 SM        SPCU C2 SM 1B~line1B-SEM S132-P --- SEM time
synch failed ---
INFO       2008-08-18 20:19:25 PCS       10.12.1.1 SCU interface 2.GIOStd --- SCU
connected --- from 149.184.13.151:2155
INFO       2008-08-18 20:19:25 PCS       10.13.1.1 SCU interface 2.GIOStd --- SCU
connected --- from 149.184.13.151:2156
INFO       2008-08-18 20:19:26 PCS       10.14.1.1 SCU interface 2.GIOStd --- SCU
connected --- from 149.184.13.151:2157
WARNING    2008-08-18 20:19:26 SM        SPCU C2 SM 2A~line4A-SEM S101-W --- SEM time
synch failed ---
INFO       2008-08-18 20:19:27 PCS       10.13.1.1 SCU interface 2.GIOStd --- SCU
disconnected ---
INFO       2008-08-18 20:19:27 PCS       10.12.1.1 SCU interface 2.GIOStd --- SCU
disconnected ---
INFO       2008-08-18 20:19:23 PCS       10.14.1.1 SCU interface 2.GIOStd --- SCU
disconnected ---
WARNING    2008-08-18 20:19:24 SM        SPCU C2 SM 1B~line1B-SEM S131-P --- SEM time
synch failed ---
WARNING    2008-08-18 20:19:24 SM        SPCU C2 SM 2A~line6A-SEM S133-P --- SEM time
synch failed ---
WARNING    2008-08-18 20:19:24 SM        SPCU C2 SM 1A~line1A-SEM S131-P --- SEM time
synch failed ---
WARNING    2008-08-18 20:19:25 SM        SPCU C2 SM 2A~line4A-SEM S101-W --- SEM time
synch failed ---
INFO       2008-08-18 20:19:30 PCS       10.13.1.1 SCU interface 2.GIOStd --- SCU
connected --- from 149.184.13.151:2165
INFO       2008-08-18 20:19:30 PCS       10.12.1.1 SCU interface 2.GIOStd --- SCU
connected --- from 149.184.13.151:2164
INFO       2008-08-18 20:19:26 PCS       10.14.1.1 SCU interface 2.GIOStd --- SCU
connected --- from 149.184.13.151:2166
INFO       2008-08-18 20:19:32 PCS       10.12.1.1 SCU interface 2.GIOStd --- SCU
disconnected ---
INFO       2008-08-18 20:19:32 PCS       10.13.1.1 SCU interface 2.GIOStd --- SCU
disconnected ---
INFO       2008-08-18 20:19:28 PCS       10.14.1.1 SCU interface 2.GIOStd --- SCU
disconnected ---
WARNING    2008-08-18 20:19:28 SM        SPCU C2 SM 2A~line6A-SEM S134-P --- SEM time
```

synch failed ---

<< Message: RE: DC-113 SEM B >> << Message: Well Gauges >>

From: Berger, Ron K (Manatee)
Sent: Tuesday, August 19, 2008 7:52 AM
To: Velamprambil, Benoj; ERIK.BRISTOL@fmcti.com; Leal, JJ (FMC); 'Furneaux, Dale'; HARDEE, ROBERT
Cc: Chan, Roy (Roy.Chan@BP.com); Cotton, Steven L (Steven.Cotton@BP.com); Young, Brian J (Brian.J.Young@BP.com); Nita.Oza@BP.com; Snow, Jeff R
Subject: FW: 122 Info

benoj,

see below. 5A line breaker is and has been closed. Currently modem does not appear to have activity. i'm getting the complete set of log files (smarttool) from yesterday. i've instructed them not to touch the SBC until i hear from ya'll. Please let me know what your assessment is with the NEW data I have provided below ASAP.

Lets recap what we know.

- DC122 shut-in at 7:20 am on 8/10 for unknown causes. No manual or automatic shut-down sequences were logged by honeywell as sent to the well at that time. Smart tool server / client was not running at that time.
- According to subsea OPC data, the PIV, PWV, CIDV1, CIDV3, SCSSV1 and SCSSV2 DCVs vented. All other valves remained in same state (PMV and AMV remained open through shutin).
- There was a Subsea Comm Fault coincident at the time of shut-in on Line A. It's possible the SBC was reset about 10 minutes after shut-in and the MVI card was not (according to event logs).
- We opened the Line 5A breaker later that morning to mitigate any other potential shut-ins and restarted well on Line B
- Tuesday, Benoj was at Westlake. We started Smart tool, closed breaker, reset SBC and MVI and re-established communication down Line A. No problems were identified. Left Smart tool running.
- On 8/15 we had 3 intermittent subsea comm alarms on Line A. Benoj came to Westlake again. We did not find anything abnormal at that time. The fault below was later identified in smart tool (i.e. CKOS150 Driver)
- Several intermittent subsea comm alarms occurred through the weekend of 8/16 (same CKOS150 Driver fault).
- Subsea comm, Line A on DC122 went into continuous alarm on 8/17 at 21:20
- LIM went off at 8/15 at 21:57 so that seems to be a red herring. We have not reset the alarms in the cabinet yet but are working to do so.
- The MVI card thinks it is talking to SBC through all these events.
- This problem is only on DC122, Line A
- The 5A breaker is currently closed and did not trip all week.
- Intermittent comm errors associated with this line had the following error in smart tool logs (over a dozen times over last week since smart tool was started on 8/12)

```
ERROR      2008-08-15 09:56:11 SM      10.3.1.1 CKOS150Driver --- No reply --- KOS150-
Update : line5A-SEM S122-P
ERROR      2008-08-15 09:56:11 SM      SPCU C1 SM 2A~line5A-SEM S122-P --- SEM-MODEM
High level communication: BAD ---
WARNING    2008-08-15 09:56:08 SM      SPCU C2 SM 1A~line1A-SEM S132-P --- SEM time
synch failed ---
WARNING    2008-08-15 09:56:08 SM      SPCU C2 SM 2A~line6A-SEM S134-P --- SEM time
synch failed ---
WARNING    2008-08-15 09:56:28 SM      SPCU C2 SM 2A~line6A-SEM S134-P --- SEM time
synch failed ---
WARNING    2008-08-15 09:56:28 SM      SPCU C2 SM 2A~line4A-SEM S101-W --- SEM time
synch failed ---
WARNING    2008-08-15 09:56:28 SM      SPCU C2 SM 1A~line1A-SEM S132-P --- SEM time
synch failed ---
WARNING    2008-08-15 09:56:28 SM      SPCU C2 SM 1B~line1B-SEM S132-P --- SEM time
synch failed ---
WARNING    2008-08-15 09:56:28 SM      SPCU C2 SM 2B~line6B-SEM S134-P --- SEM time
synch failed ---
WARNING    2008-08-15 09:56:28 SM      SPCU C2 SM 2B~line4B-SEM S101-W --- SEM time
synch failed ---
WARNING    2008-08-15 09:56:27 SM      SPCU C2 SM 2A~line6A-SEM S133-P --- SEM time
```

```
synch failed ---
WARNING    2008-08-15 09:56:27 SM         SPCU C2 SM 1A~line1A-SEM S131-P --- SEM time
synch failed ---
WARNING    2008-08-15 09:56:27 SM         SPCU C2 SM 2A~line4A-SEM S101-W --- SEM time
synch failed ---
WARNING    2008-08-15 09:56:27 SM         SPCU C2 SM 1B~line1B-SEM S131-P --- SEM time
synch failed ---
WARNING    2008-08-15 09:56:27 SM         SPCU C2 SM 2B~line6B-SEM S133-P --- SEM time
synch failed ---
WARNING    2008-08-15 09:56:27 SM         SPCU C2 SM 2B~line4B-SEM S101-W --- SEM time
synch failed ---
INFO       2008-08-15 09:56:31 SM         10.3.1.1 InitSequencer --- FCB synchronised ---
SEM# 213: SPCU C1 SM 2A~line5A-SEM S122-P
INFO       2008-08-15 09:56:31 SM         10.3.1.1 InitSequencer --- Sequence item
started --- SEM# 213: SPCU C1 SM 2A~line5A-SEM S122-P, Item #1: Start Alternative Program
INFO       2008-08-15 09:56:31 SM         10.3.1.1 InitSequencer --- Sequence item
executed --- SEM# 213: SPCU C1 SM 2A~line5A-SEM S122-P, Item #1
INFO       2008-08-15 09:56:31 SM         10.3.1.1 InitSequencer --- Delay after sequence
item --- SEM# 213: SPCU C1 SM 2A~line5A-SEM S122-P, Item #1 delay: 30.0 seconds
```

- I went back again into Smart Tool log on 8/17 at 21:20 and found the following.

ERROR 2008-08-17 21:20:36 SM SPCU C1 SM 2A~line5A-SEM S122-P~Process sensors~DH, DHI-112 Schlumberger~DH-A, Lower DHPT Gauge --- No reply --- Could not set DH coefficients, error code: 8603
WARNING 2008-08-17 21:20:32 SM SPCU C2 SM 2A~line4A-SEM S101-W --- SEM time synch failed ---
WARNING 2008-08-17 21:20:32 SM SPCU C2 SM 2B~line4B-SEM S101-W --- SEM time synch failed ---
WARNING 2008-08-17 21:20:32 SM SPCU C2 SM 1A~line1A-SEM S132-P --- SEM time synch failed ---
WARNING 2008-08-17 21:20:32 SM SPCU C2 SM 2A~line6A-SEM S134-P --- SEM time synch failed ---
WARNING 2008-08-17 21:20:32 SM SPCU C2 SM 2B~line6B-SEM S134-P --- SEM time synch failed ---
WARNING 2008-08-17 21:20:32 SM SPCU C2 SM 1B~line1B-SEM S132-P --- SEM time synch failed ---
INFO 2008-08-17 21:20:40 SM SPCU C1 SM 2A~line5A-SEM S122-P --- SEM-MODEM High level communication: OK ---
ERROR 2008-08-17 21:20:40 SM SPCU C1 SM 2A~line5A-SEM S122-P --- SEM-MODEM High level communication: BAD ---
WARNING 2008-08-17 21:20:41 SM SPCU C2 SM 1A~line1A-SEM S131-P --- SEM time synch failed ---
WARNING 2008-08-17 21:20:41 SM SPCU C2 SM 2A~line6A-SEM S133-P --- SEM time synch failed ---
WARNING 2008-08-17 21:20:41 SM SPCU C2 SM 2B~line6B-SEM S133-P --- SEM time synch failed ---
WARNING 2008-08-17 21:20:41 SM SPCU C2 SM 1B~line1B-SEM S131-P --- SEM time synch failed ---
WARNING 2008-08-17 21:20:42 SM SPCU C2 SM 2B~line4B-SEM S101-W --- SEM time synch failed ---
WARNING 2008-08-17 21:20:42 SM SPCU C2 SM 2A~line4A-SEM S101-W --- SEM time synch failed ---
INFO 2008-08-17 21:20:45 SM 10.3.1.1 InitSequencer --- FCB synchronised --- SEM# 213: SPCU C1 SM 2A~line5A-SEM S122-P
INFO 2008-08-17 21:20:45 SM 10.3.1.1 InitSequencer --- Sequence item started --- SEM# 213: SPCU C1 SM 2A~line5A-SEM S122-P, Item #1: Start Alternative Program
WARNING 2008-08-17 21:20:40 SM SPCU C2 SM 1A~line1A-SEM S132-P --- SEM time synch failed ---
WARNING 2008-08-17 21:20:40 SM SPCU C2 SM 2A~line6A-SEM S134-P --- SEM time synch failed ---
INFO 2008-08-17 21:20:46 SM 10.3.1.1 InitSequencer --- Sequence item executed --- SEM# 213: SPCU C1 SM 2A~line5A-SEM S122-P, Item #1
INFO 2008-08-17 21:20:46 SM 10.3.1.1 InitSequencer --- Delay after sequence item --- SEM# 213: SPCU C1 SM 2A~line5A-SEM S122-P, Item #1 delay: 30.0 seconds

- We have had numerous alarms on Line A for DC122. Below is a snapshot over last month of the subea comm status.

<< OLE Object: Picture (Device Independent Bitmap) >>

Regards,

ron

From: Snow, Jeff R
Sent: Monday, August 18, 2008 6:05 PM
To: Berger, Ron K (Manatee); Herrmann, Douglas T
Cc: Cotton, Steven L; Byrd, Wanda J; Sun, Henry (TX57)
Subject: FW: 122 Info

Ron,

Line 5A breaker is closed, yet there's no activity on one of the modems in the rack. This is apparently the same thing that has been occurring. I believe that the other guys had been opening and then closing the line 5A breaker and resetting the SBC to reinitialize common with the SCU.

Doug,

Are we going to need a permit to hit the reset that Ron talks about in the original email of this thread to reset the LIM alarm?

Jeff

From: Sun, Henry (TX57) [mailto:Henry.Sun2@honeywell.com]
Sent: Monday, August 18, 2008 4:21 PM
To: Berger, Ron K (Manatee); Snow, Jeff R
Cc: Cotton, Steven L; Herrmann, Douglas T; Byrd, Wanda J
Subject: RE: 122 Info

Ron,

Please see attached spreadsheet. I did not plot the graphs because I'm not sure how you would like to display them since there are many data; but all the data you need should be there.

Thanks,

Henry

From: Berger, Ron K (Manatee) [mailto:ron.berger@bp.com]
Sent: Monday, August 18, 2008 3:33 PM
To: Sun, Henry (TX57); Snow, Jeff R
Cc: Cotton, Steven L (Steven.Cotton@BP.com); Herrmann, Douglas T (HERRMADT@BP.com); Wanda.Byrd@bp.com
Subject: 122 Info

Jeff and / or henry,

Are the LIMM values (for the Bender in alarm) stored in PHD? Can I get an excel spreadsheet with all the LIMM values for that Bender over the last two weeks? With it, can you also plot the Line A Comm status for DC122? I would do this

myself, but I don't currently get the LIMM passed into Processnet (something I need to change).

If the LIMM values are not in PHD how do we start getting them into PHD?

Jeff, I need you also to go into the cabinet again, and check the Line 5A breaker. Let me know if it is Open or Closed. It's possible it opened when the LIMM went off.

Finally, currently FMC is saying we can reset the alarm on the LIMM by the Alarm reset at the top of the cabinet. This button resets all the alarms in the cabinet and nothing else. They are suggesting to reset it and see if the LIMM trips again. However, the 5A breaker needs to be closed first.

Ron

From: Cotton, Steven L <Steven.Cotton@bp.com>
Sent: Wednesday, August 20, 2008 8:13 AM
To: Snow, Jeff R <Jeff.Snow@bp.com>; Berger, Ron K (Manatee) <ron.berger@bp.com>
Cc: Herrmann, Douglas T <Douglas.Herrmann@bp.com>; Young, Brian J <Brian.J.Young@bp.com>; Oza, Nita <Nita.Oza@bp.com>; Gipson, Les <Les.Gipson@bp.com>; Little, Joshua J <Joshua.Little@bp.com>
Subject: RE: 122 Info

Jeff,

I absolutely agree that you guys should be involved in the testing of the system at FMCs office. We are hoping to have the SCU controllers and Experion server (laptop) setup next week. Once we get it working we will deliver it to FMC. The current set of problems may be limited to the SBCs but we've identified several issues relating to the comms interface between the FMC equipment and the ControlLogix\Prosoft modules. We'll need your help in making some modifications to the failed comms watchdog and to identify a better way to clearly identify to the operators that comms are down.

This would also be a great opportunity for some additional experience on the system. I think it's pretty clear that you guys are ones doing the initial troubleshooting and data collecting so the goal should be to get you to a point where can identify a bad board then replace it and download the new configuration. I saw Doug's note that he agrees with you guys getting involved so we should be able to make this happen with the support of the offshore LT.

Thanks again for all of the help so far,

Steve

From: Snow, Jeff R

Sent: Tue 8/19/2008
7:35 PM
To: Berger, Ron K (Manatee); Cotton, Steven L
Cc:
Herrmann, Douglas T; Young, Brian J; Oza, Nita
Subject: RE: 122
Info

Ron,

Just wanted to follow
up our phone conversation with an email. The symptoms that we're seeing
with SPCU 2 SEM B SBC2B (I think I got that right) appear to be the same as what
I observed several months ago when one of the other Motorola boards was changed
out. What Aneet and I saw then was that the SBC was basically not booting
up correctly and fully. Certain LEDs remain lit while others show no
activity and the SBC is not visible on the system. Some time in the last
week I either heard or read about FMC running into the same problem with some
number of boards that were right off the shelf? This is the reason that I
personally don't see the need to do a complete system power down and back
up. Others may feel differently. I feel this problem goes
directly to the SBC hardware or software that is running on it. Just my 2
cents.

Steve,

When is our system
going to be set up at FMC for testing? What would it take to get an Ops
automation guy working directly with FMC? I'm in no saying thinking that I
could discover the problem, but direct communication with FMC while working with
the system would be best in by opinion as well as offering the best time in the
world to get a better understanding of how the FMC system
operates.

Thanks,

size=2>Jeff

size=1>_____

lang=en-us>**From:** size=1>Berger, Ron K (Manatee)
face=Tahoma size=1>Sent: size=1>Tuesday, August 19, 2008 8:36 AM
lang=en-us>**To:**
Velasquez, Roy (Technip); Leal, JJ (FMC); Furneaux,
Dale (FMC); 'HARDEE, ROBERT'; 'ERIK.BRISTOL@fmcti.com'; Cotton, Steven L; Snow,
Jeff R

size=1>Cc: Chan,

Roy; Young, Brian J; Oza, Nita
face=Tahoma size=1>Subject:
FW: 122 Info

Below came out of
smart tool log this am. Also attached are some operator notes with issues
on 113/114.

WARNING
2008-08-18 20:18:51 SM SPCU C2
SM 1B~line1B-SEM S132-P --- SEM time synch failed ---
lang=en-us>size=2>INFO 2008-08-18 20:18:52
PCS 10.13.1.1 SCU interface 2.GIOStd
--- SCU disconnected ---
face="Courier New" size=2>INFO 2008-08-18
20:18:52 PCS 10.12.1.1 SCU interface
2.GIOStd --- SCU disconnected ---
face="Courier New" size=2>WARNING 2008-08-18 20:18:55
SM SPCU C2 SM 2A~line4A-SEM
S101-W --- SEM time synch failed ---
face="Courier New" size=2>WARNING 2008-08-18 20:18:55
SM SPCU C2 SM 1B~line1B-SEM
S131-P --- SEM time synch failed ---
face="Courier New" size=2>WARNING 2008-08-18 20:18:55
SM SPCU C2 SM 2A~line6A-SEM
S133-P --- SEM time synch failed ---
face="Courier New" size=2>WARNING 2008-08-18 20:18:55
SM SPCU C2 SM 1A~line1A-SEM
S131-P --- SEM time synch failed ---
face="Courier New" size=2>WARNING 2008-08-18 20:18:53
SM SPCU C2 SM 2A~line4A-SEM
S101-W --- SEM time synch failed ---
face="Courier New" size=2>WARNING 2008-08-18 20:18:53
SM SPCU C2 SM 2A~line6A-SEM
S134-P --- SEM time synch failed ---
face="Courier New" size=2>WARNING 2008-08-18 20:18:53
SM SPCU C2 SM 1A~line1A-SEM
S132-P --- SEM time synch failed ---
face="Courier New" size=2>WARNING 2008-08-18 20:18:53
SM SPCU C2 SM 1B~line1B-SEM
S132-P --- SEM time synch failed ---
face="Courier New" size=2>WARNING 2008-08-18 20:19:03
SM SPCU C2 SM 2A~line4A-SEM
S101-W --- SEM time synch failed ---
face="Courier New" size=2>WARNING 2008-08-18 20:19:04
SM SPCU C2 SM 2A~line6A-SEM
S133-P --- SEM time synch failed ---
face="Courier New" size=2>WARNING 2008-08-18 20:19:04
SM SPCU C2 SM 1A~line1A-SEM
S131-P --- SEM time synch failed ---
face="Courier New" size=2>WARNING 2008-08-18 20:19:04

SM SPCU C2 SM 1B~line1B-SEM
S131-P --- SEM time synch failed ---
face="Courier New" size=2>WARNING 2008-08-18 20:19:02
SM SPCU C2 SM 2A~line4A-SEM
S101-W --- SEM time synch failed ---
face="Courier New" size=2>WARNING 2008-08-18 20:19:03
SM SPCU C2 SM 1B~line1B-SEM
S132-P --- SEM time synch failed ---
face="Courier New" size=2>WARNING 2008-08-18 20:19:02
SM SPCU C2 SM 2A~line6A-SEM
S134-P --- SEM time synch failed ---
face="Courier New" size=2>WARNING 2008-08-18 20:19:02
SM SPCU C2 SM 1A~line1A-SEM
S132-P --- SEM time synch failed ---
face="Courier New" size=2>WARNING 2008-08-18 20:19:12
SM SPCU C2 SM 2A~line6A-SEM
S133-P --- SEM time synch failed ---
face="Courier New" size=2>WARNING 2008-08-18 20:19:12
SM SPCU C2 SM 1A~line1A-SEM
S131-P --- SEM time synch failed ---
face="Courier New" size=2>WARNING 2008-08-18 20:19:12
SM SPCU C2 SM 1B~line1B-SEM
S131-P --- SEM time synch failed ---
face="Courier New" size=2>WARNING 2008-08-18 20:19:12
SM SPCU C2 SM 2A~line4A-SEM
S101-W --- SEM time synch failed ---
face="Courier New" size=2>WARNING 2008-08-18 20:19:11
SM SPCU C2 SM 1B~line1B-SEM
S132-P --- SEM time synch failed ---
face="Courier New" size=2>WARNING 2008-08-18 20:19:11
SM SPCU C2 SM 2A~line6A-SEM
S134-P --- SEM time synch failed ---
face="Courier New" size=2>WARNING 2008-08-18 20:19:11
SM SPCU C2 SM 1A~line1A-SEM
S132-P --- SEM time synch failed ---
face="Courier New" size=2>WARNING 2008-08-18 20:19:11
SM SPCU C2 SM 2A~line4A-SEM
S101-W --- SEM time synch failed ---
face="Courier New" size=2>INFO 2008-08-18
20:19:15 PCS 10.14.1.1 SCU interface
2.GIOStd --- SCU connected --- from 149.184.13.151:2147

size=2>INFO 2008-08-18 20:19:20
PCS 10.12.1.1 SCU interface 2.GIOStd
--- SCU connected --- from 149.184.13.151:2145

size=2>INFO 2008-08-18 20:19:20
PCS 10.13.1.1 SCU interface 2.GIOStd
--- SCU connected --- from 149.184.13.151:2148

WARNING
2008-08-18 20:19:15 SM SPCU C2
SM 2A~line6A-SEM S133-P --- SEM time synch failed ---
lang=en-us>WARNING 2008-08-18
20:19:15 SM SPCU C2 SM
1B~line1B-SEM S131-P --- SEM time synch failed ---
lang=en-us>WARNING 2008-08-18
20:19:15 SM SPCU C2 SM
1A~line1A-SEM S131-P --- SEM time synch failed ---
lang=en-us>WARNING 2008-08-18
20:19:16 SM SPCU C2 SM
2A~line4A-SEM S101-W --- SEM time synch failed ---
lang=en-us>size=2>INFO 2008-08-18 20:19:22
PCS 10.13.1.1 SCU interface 2.GIOStd
--- SCU disconnected ---
face="Courier New" size=2>INFO 2008-08-18
20:19:23 PCS 10.14.1.1 SCU interface
2.GIOStd --- SCU disconnected ---
face="Courier New" size=2>INFO 2008-08-18
20:19:22 PCS 10.12.1.1 SCU interface
2.GIOStd --- SCU disconnected ---
face="Courier New" size=2>WARNING 2008-08-18 20:19:25
SM SPCU C2 SM 2A~line6A-SEM
S134-P --- SEM time synch failed ---
face="Courier New" size=2>WARNING 2008-08-18 20:19:25
SM SPCU C2 SM 1A~line1A-SEM
S132-P --- SEM time synch failed ---
face="Courier New" size=2>WARNING 2008-08-18 20:19:25
SM SPCU C2 SM 1B~line1B-SEM
S132-P --- SEM time synch failed ---
face="Courier New" size=2>INFO 2008-08-18
20:19:25 PCS 10.12.1.1 SCU interface
2.GIOStd --- SCU connected --- from 149.184.13.151:2155

size=2>INFO 2008-08-18 20:19:25
PCS 10.13.1.1 SCU interface 2.GIOStd
--- SCU connected --- from 149.184.13.151:2156

size=2>INFO 2008-08-18 20:19:26
PCS 10.14.1.1 SCU interface 2.GIOStd
--- SCU connected --- from 149.184.13.151:2157

WARNING
2008-08-18 20:19:26 SM SPCU C2
SM 2A~line4A-SEM S101-W --- SEM time synch failed ---
lang=en-us>size=2>INFO 2008-08-18 20:19:27
PCS 10.13.1.1 SCU interface 2.GIOStd
--- SCU disconnected ---
face="Courier New" size=2>INFO 2008-08-18
20:19:27 PCS 10.12.1.1 SCU interface
2.GIOStd --- SCU disconnected ---
face="Courier New" size=2>INFO 2008-08-18

20:19:23 PCS 10.14.1.1 SCU interface
2.GIOStd --- SCU disconnected ---
face="Courier New" size=2>WARNING 2008-08-18 20:19:24
SM SPCU C2 SM 1B~line1B-SEM
S131-P --- SEM time synch failed ---
face="Courier New" size=2>WARNING 2008-08-18 20:19:24
SM SPCU C2 SM 2A~line6A-SEM
S133-P --- SEM time synch failed ---
face="Courier New" size=2>WARNING 2008-08-18 20:19:24
SM SPCU C2 SM 1A~line1A-SEM
S131-P --- SEM time synch failed ---
face="Courier New" size=2>WARNING 2008-08-18 20:19:25
SM SPCU C2 SM 2A~line4A-SEM
S101-W --- SEM time synch failed ---
face="Courier New" size=2>INFO 2008-08-18
20:19:30 PCS 10.13.1.1 SCU interface
2.GIOStd --- SCU connected --- from 149.184.13.151:2165

size=2>INFO 2008-08-18 20:19:30
PCS 10.12.1.1 SCU interface 2.GIOStd
--- SCU connected --- from 149.184.13.151:2164

size=2>INFO 2008-08-18 20:19:26
PCS 10.14.1.1 SCU interface 2.GIOStd
--- SCU connected --- from 149.184.13.151:2166

size=2>INFO 2008-08-18 20:19:32
PCS 10.12.1.1 SCU interface 2.GIOStd
--- SCU disconnected ---
face="Courier New" size=2>INFO 2008-08-18
20:19:32 PCS 10.13.1.1 SCU interface
2.GIOStd --- SCU disconnected ---
face="Courier New" size=2>INFO 2008-08-18
20:19:28 PCS 10.14.1.1 SCU interface
2.GIOStd --- SCU disconnected ---
face="Courier New" size=2>WARNING 2008-08-18 20:19:28
SM SPCU C2 SM 2A~line6A-SEM
S134-P --- SEM time synch failed ---

<<
Message: RE: DC-113 SEM B >> << Message: Well Gauges >>

size=1>_____
lang=en-us>**From:** size=1>Berger, Ron K (Manatee)
face=Tahoma size=1>Sent: size=1>Tuesday, August 19, 2008 7:52 AM
lang=en-us>**To:**
Velamprambil, Benoj; ERIK.BRISTOL@fmcti.com; Leal, JJ
(FMC); 'Furneaux, Dale'; HARDEE, ROBERT

lang=en-us>Cc:
Chan, Roy (Roy.Chan@BP.com); Cotton, Steven L (Steven.Cotton@BP.com); Young, Brian J (Brian.J.Young@BP.com); Nita.Oza@BP.com; Snow, Jeff R

size=1>Subject: face=Tahoma size=1>FW: 122 Info

benoj,
lang=en-us>
lang=en-us>see below. 5A line breaker is and has been closed. Currently modem does not appear to have activity. i'm getting the complete set of log files (smarttool) from yesterday. i've instructed them not to touch the SBC until i hear from ya'll. Please let me know what your assessment is with the NEW data I have provided below ASAP.

lang=en-us>Lets recap what we know.

- DC122 shut-in at 7:20 am on 8/10 for unknown causes. No manual or automatic shut-down sequences were logged by honeywell as sent to the well at that time. Smart tool server / client was not running at that time.
- According to subsea OPC data, the PIV, PWV, CIDV1, CIDV3, SCSSV1 and SCSSV2 DCVs vented. All other valves remained in same state (PMV and AMV remained open through shutin).
- There was a Subsea Comm Fault coincident at the time of shut-in on Line A. It's possible the SBC was reset about 10 minutes after shut-in and the MVI card was not (according to event logs).
- We opened the Line 5A breaker later that morning to mitigate any other potential shut-ins and restarted well on Line B
- Tuesday, Benoj was at Westlake. We started Smart tool, closed breaker, reset SBC and MVI and re-established communication down Line A. No problems were identified. Left Smart tool running.
- On 8/15 we had 3 intermittent subsea comm alarms on Line A. Benoj came to Westlake again. We did not find anything abnormal at that time. The fault below was later identified in smart tool (i.e. CKOS150 Driver)
- Several intermittent subsea comm alarms occurred through the weekend of 8/16 (same CKOS150 Driver fault).
- Subsea comm, Line A on DC122 went into continuous alarm on 8/17 at 21:20
- LIM went off at 8/15 at 21:57 so that seems to be a red herring. We have not reset the alarms in the cabinet yet but are working to do so.
- The MVI card thinks it is talking to SBC through all these events.

- This problem is only on DC122, Line A
- The 5A breaker is currently closed and did not trip all week.
- Intermittent comm errors associated with this line had the following error in smart tool logs (over a dozen times over last week since smart tool was started on 8/12)

```
size=2>ERROR       2008-08-15 09:56:11
SM          10.3.1.1 CKOS150Driver --- No
reply --- KOS150-Update : line5A-SEM size=2>S122-P
size=2>ERROR       2008-08-15 09:56:11
SM          SPCU C1 SM 2A~line5A-SEM
S122-P --- SEM-MODEM High level communication: BAD ---


WARNING
2008-08-15 09:56:08 SM          SPCU C2
SM 1A~line1A-SEM S132-P --- SEM time synch failed ---
lang=en-us>WARNING     2008-08-15
09:56:08 SM          SPCU C2 SM
2A~line6A-SEM S134-P --- SEM time synch failed ---
lang=en-us>WARNING     2008-08-15
09:56:28 SM          SPCU C2 SM
2A~line6A-SEM S134-P --- SEM time synch failed ---
lang=en-us>WARNING     2008-08-15
09:56:28 SM          SPCU C2 SM
2A~line4A-SEM S101-W --- SEM time synch failed ---
lang=en-us>WARNING     2008-08-15
09:56:28 SM          SPCU C2 SM
1A~line1A-SEM S132-P --- SEM time synch failed ---
lang=en-us>WARNING     2008-08-15
09:56:28 SM          SPCU C2 SM
1B~line1B-SEM S132-P --- SEM time synch failed ---
lang=en-us>WARNING     2008-08-15
09:56:28 SM          SPCU C2 SM
2B~line6B-SEM S134-P --- SEM time synch failed ---
lang=en-us>WARNING     2008-08-15
09:56:28 SM          SPCU C2 SM
2B~line4B-SEM S101-W --- SEM time synch failed ---
lang=en-us>WARNING     2008-08-15
09:56:27 SM          SPCU C2 SM
2A~line6A-SEM S133-P --- SEM time synch failed ---
lang=en-us>WARNING     2008-08-15
09:56:27 SM          SPCU C2 SM
1A~line1A-SEM S131-P --- SEM time synch failed ---
lang=en-us>WARNING     2008-08-15
09:56:27 SM          SPCU C2 SM
2A~line4A-SEM S101-W --- SEM time synch failed ---
lang=en-us>WARNING     2008-08-15
09:56:27 SM          SPCU C2 SM
1B~line1B-SEM S131-P --- SEM time synch failed ---
lang=en-us>WARNING     2008-08-15
09:56:27 SM          SPCU C2 SM
2B~line6B-SEM S133-P --- SEM time synch failed ---
lang=en-us>WARNING     2008-08-15
```

09:56:27 SM SPCU C2 SM
2B~line4B-SEM S101-W --- SEM time synch failed ---
lang=en-us>size=2>INFO 2008-08-15 09:56:31
SM 10.3.1.1 InitSequencer ---
FCB synchronised --- SEM# 213: SPCU C1 SM 2A~line5A-SEM
S122-P

size=2>INFO 2008-08-15 09:56:31
SM 10.3.1.1 InitSequencer ---
Sequence item started --- SEM# 213: SPCU C1 SM 2A~line5A-SEM S122-P, Item
#1:
Start Alternative Program

size=2>INFO 2008-08-15 09:56:31
SM 10.3.1.1 InitSequencer ---
Sequence item executed --- SEM# 213: SPCU C1 SM 2A~line5A-SEM S122-P, Item

#1

size=2>INFO 2008-08-15 09:56:31
SM 10.3.1.1 InitSequencer ---
Delay after sequence item --- SEM# 213: SPCU C1 SM 2A~line5A-SEM S122-P,
Item #1
delay: 30.0 seconds

- I went back again into Smart Tool
  log on 8/17 at 21:20 and found the following.

size=2>ERROR 2008-08-17 21:20:36
SM SPCU C1 SM 2A~line5A-SEM
S122-P~Process sensors~DH, DHI-112 Schlumberger~DH-A, Lower DHPT Gauge --- No reply --- Could not set DH coefficients, error code: 8603

size=2>WARNING 2008-08-17 21:20:32
SM SPCU C2 SM 2A~line4A-SEM
S101-W --- SEM time synch failed ---
face="Times New Roman" size=2>WARNING 2008-08-17 21:20:32
SM SPCU C2 SM 2B~line4B-SEM
S101-W --- SEM time synch failed ---
face="Times New Roman" size=2>WARNING 2008-08-17 21:20:32
SM SPCU C2 SM 1A~line1A-SEM
S132-P --- SEM time synch failed ---
face="Times New Roman" size=2>WARNING 2008-08-17 21:20:32
SM SPCU C2 SM 2A~line6A-SEM
S134-P --- SEM time synch failed ---

face="Times New Roman" size=2>WARNING 2008-08-17 21:20:32
SM SPCU C2 SM 2B~line6B-SEM
S134-P --- SEM time synch failed ---
face="Times New Roman" size=2>WARNING 2008-08-17 21:20:32
SM SPCU C2 SM 1B~line1B-SEM
S132-P --- SEM time synch failed ---
face="Times New Roman" size=2>INFO
2008-08-17 21:20:40 SM SPCU C1
SM 2A~line5A-SEM S122-P --- SEM-MODEM High level communication: OK ---

size=2>ERROR 2008-08-17 21:20:40
SM SPCU C1 SM 2A~line5A-SEM
S122-P --- SEM-MODEM High level communication: BAD ---

size=2>WARNING 2008-08-17 21:20:41
SM SPCU C2 SM 1A~line1A-SEM
S131-P --- SEM time synch failed ---
face="Times New Roman" size=2>WARNING 2008-08-17 21:20:41
SM SPCU C2 SM 2A~line6A-SEM
S133-P --- SEM time synch failed ---
face="Times New Roman" size=2>WARNING 2008-08-17 21:20:41
SM SPCU C2 SM 2B~line6B-SEM
S133-P --- SEM time synch failed ---
face="Times New Roman" size=2>WARNING 2008-08-17 21:20:41
SM SPCU C2 SM 1B~line1B-SEM
S131-P --- SEM time synch failed ---
face="Times New Roman" size=2>WARNING 2008-08-17 21:20:42
SM SPCU C2 SM 2B~line4B-SEM
S101-W --- SEM time synch failed ---
face="Times New Roman" size=2>WARNING 2008-08-17 21:20:42
SM SPCU C2 SM 2A~line4A-SEM
S101-W --- SEM time synch failed ---
face="Times New Roman" size=2>INFO
2008-08-17 21:20:45 SM 10.3.1.1
InitSequencer --- FCB synchronised --- SEM# 213: SPCU C1 SM 2A~line5A-SEM
S122-P

size=2>INFO 2008-08-17 21:20:45
SM 10.3.1.1 InitSequencer ---
Sequence item started --- SEM# 213: SPCU C1 SM 2A~line5A-SEM S122-P, Item #1:
Start Alternative Program

size=2>WARNING 2008-08-17 21:20:40
SM SPCU C2 SM 1A~line1A-SEM
S132-P --- SEM time synch failed ---
lang=en-us>**WARNING**
2008-08-17 21:20:40 SM SPCU C2
SM 2A~line6A-SEM S134-P --- SEM time synch failed ---

size=2>INFO 2008-08-17 21:20:46

SM 10.3.1.1 InitSequencer ---
Sequence item executed --- SEM# 213: SPCU C1 SM 2A~line5A-SEM S122-P, Item #1

size=2>INFO 2008-08-17 21:20:46
SM 10.3.1.1 InitSequencer ---
Delay after sequence item --- SEM# 213: SPCU C1 SM 2A~line5A-SEM S122-P, Item #1
delay: 30.0 seconds

- We have had numerous alarms on Line A for DC122. Below is a snapshot over last month of the subea comm status.

<< OLE Object: Picture (Device Independent Bitmap) >>

Regards,
lang=en-us>
lang=en-us>
lang=en-us>ron
face=Arial size=2>
size=2>

size=2>_____

From: Snow, Jeff R

Sent: Monday, August 18, 2008 6:05 PM
To: Berger, Ron K (Manatee); Herrmann, Douglas T
lang=en-us>Cc: Cotton, Steven L; Byrd, Wanda J; Sun, Henry (TX57)
Subject: FW: 122 Info

Ron,
lang=en-us>
lang=en-us>Line 5A breaker is closed, yet there's no activity on one of the modems in the rack. This is apparently the same thing that has been occurring. I believe that the other guys had been opening and then closing the line 5A breaker and resetting the SBC to reinitialize common with the SCU.

lang=en-us>Doug,
lang=en-us>
lang=en-us>Are we going to need a permit to hit the
reset that Ron talks about in the original email of this thread to reset the LIM
alarm?

Jeff

size=2>_____

From: Sun, Henry (TX57)
[lang=en-us>size=2>mailto:Henry.Sun2@honeywell.comlang=en-us>]
face=Arial size=2>Sent: Monday, August 18, 2008 4:21 PM
lang=en-us>To: Berger, Ron K (Manatee); Snow, Jeff
R
Cc: Cotton, Steven
L; Herrmann, Douglas T; Byrd, Wanda J
face=Arial size=2>Subject: RE: 122 Info

Ron,

Please see attached spreadsheet. I
did not plot the graphs because I'm not sure how you would like to display them
since there are many data; but all the data you need should be
there.

Thanks,

Henry

size=2>_____

From: Berger, Ron K (Manatee)
[face=Arial color=#0000ff
size=2>mailto:ron.berger@bp.comface=Arial size=2>]
size=2>Sent: Monday, August 18, 2008 3:33 PM
lang=en-us>To: Sun, Henry (TX57); Snow, Jeff

R
Cc: Cotton, Steven
L (Steven.Cotton@BP.com); Herrmann, Douglas T (HERRMADT@BP.com);
Wanda.Byrd@bp.com
size=2>Subject: 122 Info

Jeff and / or henry,

Are the LIMM values (for the Bender
in alarm) stored in PHD? Can I get an excel spreadsheet with all the LIMM values for that Bender over the last two weeks? With it, can you also plot the Line A Comm status for DC122? I would do this myself, but I don't currently get the LIMM passed into Processnet (something I need to change).

If the LIMM values are not in PHD
how do we start getting them into PHD?

Jeff, I need you also to go into the
cabinet again, and check the Line 5A breaker. Let me know if it is Open or Closed. It's possible it opened when the LIMM went off.

Finally, currently FMC is saying we
can reset the alarm on the LIMM by the Alarm reset at the top of the cabinet. This button resets all the alarms in the cabinet and nothing else. They are suggesting to reset it and see if the LIMM trips again. However, the 5A breaker needs to be closed first.

Ron

size=2>

From: Snow, Jeff R <Jeff.Snow@bp.com>
Sent: Thursday, August 21, 2008 8:18 AM
To: Berger, Ron K (Manatee) <ron.berger@bp.com>
Subject: Emailing: SMT_Logs_20080820.zip
Attach: SMT_Logs_20080820.zip

The message is ready to be sent with the following file or link attachments:
SMT_Logs_20080820.zip
Note: To protect against computer viruses, e-mail programs may prevent sending or receiving certain types of file attachments. Check your e-mail security settings to determine how attachments are handled.

From: Fleming, Ray H <Ray.Fleming@bp.com>
Sent: Thursday, August 21, 2008 5:46 PM
To: 'McIntosh, Brian' <Brian.McIntosh@fmcti.com>; Berg, Johnny <Johnny.Berg@fks.fmcti.com>; ERIK.BRISTOL@fmcti.com; Brooks, Randy R. (QA) <RandyR.Brooks@fmcti.com>; Chan, Roy <Roy.Chan@bp.com>; Furneaux, Dale (FMC) <dale.furneaux@fmcti.com>; Jampala, Shalima <Shalima.Jampala@fmcti.com>; Leal, JJ (FMC) <jj.leal@fmcti.com>; Nehra, Aneet <Aneet.Nehra@fmcti.com>; Oza, Nita <Nita.Oza@bp.com>; Gregory.Reiff@fmcti.com; Berger, Ron K (Manatee) <ron.berger@bp.com>; Cotton, Steven L <Steven.Cotton@bp.com>; LINH.THAI@fmcti.com; Broman, William H (HOU) <william.broman@bp.com>
Subject: RE: update of RCA effort

Brian,

Thanks for the update.

I am not sure if we are somehow losing our way or going down a rat-hole with fault trees and reliability engineering support. At the first BP/FMC meeting that I attended on the 4th of August to discuss the SBC issues, it was not known if there was more than one failure mode, what on the SBC boards had failed or made them malfunction, and what internal or external condition was the root cause of the failure. We asked for a decision tree, with a timeline, to lay out the steps that would be taken to help provide answers to the above questions. This would not only provide a plan to work to but it would also provide a document that could be taken to the Atlantis management to give them some confidence that the problem was being managed effectively. I am having a hard time understanding how the fault tree will help here and in the meantime you may have detected a sense of frustration that we do not have a clear plan outlining how FMC plan to diagnose this problem.

I am not sure if we can even commence the root cause analysis until we know what has failed or is malfunctioning on the board.

I am aware that the boards have been tested in Houston by FMC and are now being tested in Norway by FMC. Is there an expectation that FMC Norway can diagnose the problem without getting the board manufacturer involved or will we ultimately have to send the boards to Motorola for their own diagnosis. How much testing will Norway do before this decision is made.

This is the sort of information that I would like to see, even in a very high level plan to provide some visibility on the process.

Can you please provide the outline plan with timeline.

Can you also please invite Roy Chan to the conference call with Norway tomorrow.

Many thanks

Ray

From: McIntosh, Brian [mailto:Brian.McIntosh@fmcti.com]
Sent: Thursday, August 21, 2008 2:58 PM
To: Berg, Johnny; ERIK.BRISTOL@fmcti.com; Brooks, Randy R. (QA); Chan, Roy; Furneaux, Dale (FMC); Jampala, Shalima; Leal, JJ (FMC); Nehra, Aneet; Oza, Nita; Fleming, Ray H; Gregory.Reiff@fmcti.com; Berger, Ron K (Manatee); Cotton, Steven L; LINH.THAI@fmcti.com
Subject: update of RCA effort
Importance: High

I am sending out an update of our efforts thus far:

We have shipped two of the three boards that would not boot to Norway and they have been received there. We are continuing to test the third board here in our development laboratory. Dale Furneaux has written a test application to exercise the third board and it is currently running in one of our development racks. He is gathering data and will report on that at our next RCA meeting. Norway has reported that during testing both boards booted initially but after powering them down and re-starting them, both failed. They are continuing their root cause analysis of the board failure and we are planning a teleconference with them on Friday. The RCA team met this week and began to gather information for the creation of the fault tree. Shalima Jampala is supporting our efforts from our Reliability Engineering group and is our RCA facilitator. She is developing the fault tree and will schedule a meeting soon to review it. I have asked Roy Chan to provide us with any data that he can find as relates to environmental and operating conditions at the time of the failure (i.e. temperature, humidity, vibration, transients in the input power, etc.) We are continuing to work the problem and I will keep you updated as events transpire.

Best Regards,

Brian L. McIntosh P.E.

Topside Product Engineering Manager

FMC Technologies Inc.

brian.mcintosh@fmcti.com

Phone: 281-591-4439

Mobile:

From: Berger, Ron K (Manatee) <ron.berger@bp.com>
Sent: Thursday, August 21, 2008 3:43 PM
To: Snow, Jeff R <Jeff.Snow@BP.com>; Chan, Roy <Roy.Chan@BP.com>
Cc: Little, Joshua J <Joshua.Little@BP.com>; Herrmann, Douglas T <Douglas.Herrmann@BP.com>; Gipson, Les <Les.Gipson@BP.com>; Oza, Nita <Nita.Oza@BP.com>
Subject: RE: Atlantis --- SBC RCA update

we might be able to send a tech sooner but it will be two trips (one to install the board, and then again on 113 AMV). in a major bind, you could install the board and we can load new software from here. let me know as i need to make plans.

From: Snow, Jeff R
Sent: Thursday, August 21, 2008 2:35 PM
To: Berger, Ron K (Manatee); Chan, Roy
Cc: Little, Joshua J; Herrmann, Douglas T; Gipson, Les; Oza, Nita
Subject: RE: Atlantis --- SBC RCA update

Ron,

- what is the inventory of SBC on the PQ, including what is installed in all three cabinets? is it possible to develp list with serial numbers and locations, and current status (i.e. servicing well DCXXX, failed, idle)?

  SPCU3 contains 1 SBC
  SPCU2 SBC2B is failed currently. Doesn't seem to make it through the boot sequence

- what is the serial number and location of the board that failed for dc113 / dc114

  Can't see serial numbers with boards installed

It's my opinion that we need to get FMC out pretty quick to replace SPCU2 SBC2B. If the other board decides to give up we'll be in a bind. As I stated above we have ONE board offshore and it would need to be robbed from SPCU3 as all of the others have been. We have none in spares.

Jeff

From: Berger, Ron K (Manatee)
Sent: Thursday, August 21, 2008 8:06 AM
To: Snow, Jeff R
Cc: Little, Joshua J; Herrmann, Douglas T; Gipson, Les; Chan, Roy; Oza, Nita
Subject: FW: Atlantis --- SBC RCA update

jeff,

roy is the bp controls engineer who is leading our interests with the SBC RCFA. i've told roy to contact ya'll directly on any information that he needs regarding the SBC RCFA. roy will copy myself and nita on all correspondence. please extend any help you can to him. if you have any problems with his requests, let me know.

current requests are as follows:

- what is the inventory of SBC on the PQ, including what is installed in all three cabinets? is it possible to develp list with serial numbers and locations, and current status (i.e. servicing well DCXXX, failed, idle)?
- what is the serial number and location of the board that failed for dc113 / dc114

also, i'm thinking at the moment that we will need fmc out next week to replace the board, and at the same time do what is necessary for dc113 amv installation. what do ya'll think?

ron

From: Chan, Roy
Sent: Thursday, August 21, 2008 7:56 AM
To: Berger, Ron K (Manatee)
Subject: RE: Atlantis --- SBC RCA update

Ron,

Sure will, could you send an email to Jeff and ask for serial number of the board? If possible, a photo taken to the cabinet with location identified would be helpful.

Thanks,

Roy
Office: +1 281 366-1131
Mobile:

From: Berger, Ron K (Manatee)
Sent: Thursday, August 21, 2008 7:22 AM
To: Chan, Roy
Subject: RE: Atlantis --- SBC RCA update

need to add the c2 2b board to the list. this is the one that we identified as failed on tuesday. probably failed on monday.

From: Chan, Roy
Sent: Wednesday, August 20, 2008 5:40 PM
To: Berger, Ron K (Manatee); Oza, Nita; Fleming, Ray H
Cc: Young, Brian J; Cotton, Steven L; Hartley, Jamie (FMC); Furneaux, Dale (FMC)
Subject: Atlantis --- SBC RCA update

All,

This afternoon I have meet with Brian McIntosh for an update of SBC RCA. Here are the recaps.

- FMC Norway has received 3 of the faulty SBC's today.
- Johnny Brid, who is FMC Norway Senior Product Engineer, has been assigned as SPC in Norway.
- FMC Norway will have their internal meeting to discuss a way forward of testing and diagnose the SBC. There will be a conference call between FMC Houston and Norway after the internal meeting. FMC Houston indicated that they have emphasized to Norway to have Motorola involve in testing and diagnose.
- A faulty SCB test report from FMC Houston has been sent Norway.
- FMC will use their RCA guideline for this RCA. (see attached).
- FMC Houston has assigned a Reliability engineer to develop fault/logic tree for the investigation.
- BP ordered 6 spare SBC will be delivered to Houston on the last week of Sep. There are 4 other SBC in FMC Houston product group can used in case of emergency between now until the spare SBC's arrive.
- FMC Houston will update the 6 faulty cards status in details that include physical location, test results and any early findings.(See attached) **----- ACTION B. McIntosh**
- B. McIntosh will report update progress tomorrow **----- ACTION B. McIntosh**
- FMC Houston will send SBC design working environment limit BP for actual environment comparisons. -----

ACTION B. McIntosh

- BP to confirm physical size of the topside test rig and power requirement. ---- **ACTION R. Chan**
- Topside test equipment will be available from BP by Aug 29th.
- Test rig setup location will be either at FMC Houston SCM lab or test lab in production group.

Regards,

Roy Chan
Subsea Controls Engineer
BP GoM Development
Office: +1 281 366-1131
Mobile:

From: Berger, Ron K (Manatee)
Sent: Thursday, August 21, 2008 2:24:05 PM
To: Leal, JJ (FMC); Velamprambil, Benoj
CC: HARDEE, ROBERT; Herrmann, Douglas T; Snow, Jeff R; Oza, Nita; Furneaux, Dale (FMC); Young, Brian J
Subject: DC113 Software Upgrade and Failed Card Installation

JJ,

Since we have to go offshore and replace the bad SBC for DC113/114, B side, we might as well do the software change-out for the DC113 AMV external actuator out there as well. I have not had confirmation with the PQ, but I would like to tentatively schedule a technician going out next Thursday.

Since by coincidence, the failed card is associated with DC113/114, the replacement card, can already have the new software loaded on it and tested by FMC. It's my request that you do this. Maybe you possibly have card still available at the testing in the POD lab.

Please confirm your receipt and ability to meet this schedule offshore. I'm still waiting on the procedure. Once we have that we will perform a risk assessment here at Westlake with the PQ.

Ron

From: Berger, Ron K (Manatee) <ron.berger@bp.com>
Sent: Thursday, August 21, 2008 2:15 PM
To: Snow, Jeff R <Jeff.Snow@BP.com>
Cc: Herrmann, Douglas T <herrmadt@bp.com>; Gipson, Les <gipsll@bp.com>; Mack, John G <mackjg1@bp.com>; Oza, Nita <ozan@bp.com>
Subject: FW: DC-122 information.

jeff,

talk to doug. it looks like FMC is convinced that SEM A on DC122 is bad and possibly the culprit to the shut-in the other day. Make sure DC122 is using Line B as the Master and then Open the C1-Line 5A breaker on it.

we will need to replace the SCM on this well.

ron

From: Velamprambil, Benoj [mailto:Benoj.Velamprambil@fmcti.com]
Sent: Thursday, August 21, 2008 12:54 PM
To: Berger, Ron K (Manatee); Furneaux, Dale (FMC); Leal, JJ (FMC)
Subject: DC-122 information.

Ron,
It looks like the command to close the PIV was not executed on the A side for DC-122. Following is the error message that came up on the report log.
ERROR 2008-08-20 09:26:12 SM SPCU C1 SM 2A~line5A-SEM S122-P~X-tree and DH valves~PIV --- No reply --- error code: 8603

We do not think it is advisable to leave SEM A running on DC-122 since we have found out a Ram warning on that SEM. It would be our recommendation to turn the breaker OFF for SEM A (line 5A) for Well DC-122(which also effects Well 121-which is not flowing to my understanding) and be running only on SEM B (Line 5B).

Please let me know if you have any further information.

Thanks,

Benoj Velamprambil
Customer Support Installation Engineer
email: Benoj.Velamprambil@fmcti.com | Office: 281-405-2900| M:713-870-5283

FMC Technologies, Inc
1777 Gears Rd | Houston, TX | 77067 USA
www.fmctechnologies.com

-----Original Message-----
From: Berger, Ron K (Manatee) [mailto:ron.berger@bp.com]
Sent: Thursday, August 21, 2008 7:25 AM
To: Velamprambil, Benoj; Furneaux, Dale; Leal, JJ
Subject: FW: Emailing: SMT_Logs_20080820.zip

benoj,

These are the files for the 20th. The error I sent out yesterday on 122 occurred at 9:26 am. Let me know what you think.

ron

-----Original Message-----
From: Snow, Jeff R
Sent: Thursday, August 21, 2008 7:18 AM
To: Berger, Ron K (Manatee)
Subject: Emailing: SMT_Logs_20080820.zip

The message is ready to be sent with the following file or link attachments:

SMT_Logs_20080820.zip

Note: To protect against computer viruses, e-mail programs may prevent sending or receiving certain types of file attachments. Check your e-mail security settings to determine how attachments are handled.
<<SMT_Logs_20080820.zip>>

Discovery Ex. No. 228
Cause No.
4:09-cv-01193
Abbott v. BP

From: Berger, Ron K (Manatee) <ron.berger@bp.com>
Sent: Thursday, August 21, 2008 9:16 AM
To: Vass, Malcolm (Technip) <malcolmvass@bp.com>
Cc: Whitehead, David K (Technip) <David.Whitehead@BP.com>; Oza, Nita <Nita.Oza@BP.com>; Cotton, Steven L <Steven.Cotton@BP.com>
Subject: RE: Honeywell screens

I'm agreed w below comments:

0415 - include sheet describing end connection locations for all jumpers, efls and sfls
0360 - needs to include that dc122 is in service and dc142 jumpers will be connected to tree, but won't be complete
0276 - show checks or note that they are FSVs

We will eventually need other sheets for other manifolds.

We also need a process to keep this live and not let them fall behind again.

Get them started and then we can sit down with steve and bring walk him through them when you issue them for review.

ron

-----Original Message-----
From: McVass@technip.com [mailto:McVass@technip.com]
Sent: Thursday, August 21, 2008 8:01 AM
To: Berger, Ron K (Manatee)
Cc: Whitehead, David K (Technip); Oza, Nita; Cotton, Steven L
Subject: Re: Honeywell screens

Ron,

I propose that the attached package of drawings, some of which have yet to be released, are revised to reflect the current as-built subsea system.

These drawings would be handed over to Operations and accepted as the "official" as-built data. The drawings would have to be revised / replaced as subsea equipment is installed, manifolds replaced, DC3 equipment installed, etc. In this manner, the Operations Group should always have a set of up-to-date as-built drawings that accurately reflect the subsea architecture.

Some of the attached drawings may have incorrect titles. For example,
3478-BSB-DC-100-02 is not really a P&ID. I would call this drawing a piping / flowline schematic and have the relevant P&IDs called out as reference drawings.

Please let me know what you think. I'd like to meet ASAP to agree a way forward.

Regards,

Malcolm.

(See attached file: Scan001.PDF)

Exhibit 107
Part 8

"Berger, Ron K (Mantee)" <ron.berger@bp.com>

08/20/2008 02:18 PM

To
"Vass, Malcolm (Technip)" <mcvass@technip.com>, "Whitehead, David K (Technip) (whitdz@BP.com)" <David.Whitehead@BP.com>

cc
"Cotton, Steven L (Steven.Cotton@BP.com)" <Steven.Cotton@bp.com>, <Nita.Oza@BP.com>

Subject
Honeywell screens

I looked at the honeywell screens and I have to agree with david that they are not where they should be. There is a overview drawing that makes an attempt to model the subsea infrastructure but even it is not current.

We are going to set-up a project to update them. Steve cotton is going to be the SPA for it. Please send me a list of the p&id's (and pull a copy as

well) and when steve is ready we will talk about a plan of updating both.

ron

From: Broman, William H(HOU) <william.broman@bp.com>
Sent: Friday, August 22, 2008 12:59 PM
To: Fleming, Ray H <Ray.Fleming@bp.com>
Cc: Oza, Nita <Nita.Oza@bp.com>; Berger, Ron K (Manatee) <ron.berger@bp.com>; Kennelley, Kevin J <kennelkj@bp.com>; Peloubet, Robert R <Robert.Peloubet@bp.com>; Broman, William H(HOU) <william.broman@bp.com>
Subject: RE: BP Atlantis Single Board Computer Issues Meeting Minutes - 8/12/08

Ray, I totally agree on the SCM issue. As soon as the review is completed around the DC122 SCM issues we will pull it if warranted. In my discussions with George Bradley and Robert Noe we did discuss the potentials around what could be hiding in the SCM and the wider implications to BP.

George assured me that Norway was onboard and we will keep the heat turned up on them.

Bill Broman
Atlantis Subsea Delivery Manager
GOM Deepwater
281-249-1337 office
william.broman@bp.com

From: Fleming, Ray H
Sent: Friday, August 22, 2008 11:41 AM
To: Broman, William H(HOU)
Cc: Oza, Nita; Berger, Ron K (Manatee); Kennelley, Kevin J; Peloubet, Robert R
Subject: RE: BP Atlantis Single Board Computer Issues Meeting Minutes - 8/12/08

Bill,

Thanks for the update. I get a sense that the FMC Houston are getting the message. They in turn need to impress the need for FMC Norway to act. For me it was not so much to speed of response rather than the sense that they didn't seem to know what to do, could not provide an outline plan and seemed to be spinning their wheels and not engaging fully with Norway or Motorola.

Regarding the 122 SCM, the initial SEM RAM problem was identified by FMC as a batch issue. It will be interesting to see if this RAM on SCM 122 is from the 'bad' batch and you have not been informed, or this problem is indicative of another batch of problematic or bad RAMs or if there is a separate RAM problem. If it is another batch of bad RAM the problem may affect more pods on Atlantis, Thunder Horse, Na Kika and Block 18. It is important to get to the bottom of this ASAP. A SCM retrieval, sooner rather than later may help expedite the answer.

Regards

Ray

From: Broman, William H(HOU)
Sent: Thursday, August 21, 2008 9:58 PM
To: Fleming, Ray H
Cc: Oza, Nita; Berger, Ron K (Manatee); Kennelley, Kevin J; Peloubet, Robert R; Broman, William H(HOU)
Subject: RE: BP Atlantis Single Board Computer Issues Meeting Minutes - 8/12/08

I had an extended discussion with FMC management yesterday and was given full assurance that they would get the heat cranked up. I had a detailed message this morning from George Bradley with the progress today and what is now in place for Norway and Houston for support. Ron tells me that they are getting increased focus and I will continue to have discussions with FMC on keeping focus.

One item we seem to be getting to is the potential that the 122 SCM may have a SEM RAM issue similar to the ongoing recalls from FMC and we are exploring this with the potential to need to recover the 122 SCM.

Bill Broman
Atlantis Subsea Delivery Manager
GOM Deepwater
281-249-1337 office
william.broman@bp.com

From: Fleming, Ray H
Sent: Thursday, August 21, 2008 4:55 PM
To: Broman, William H(HOU)
Cc: Oza, Nita; Berger, Ron K (Manatee); Kennelley, Kevin J; Peloubet, Robert R
Subject: FW: BP Atlantis Single Board Computer Issues Meeting Minutes - 8/12/08

Bill,

FYI

Ron is doing a good job trying to light a fire under the FMC aftermarket folks but progress is still sluggish. It may now be highly appropriate to raise this matter at a more senior level within FMC. This would be more appropriate coming from you.

Regards

Ray

From: Fleming, Ray H
Sent: Wednesday, August 20, 2008 7:42 AM
To: Kennelley, Kevin J
Subject: RE: BP Atlantis Single Board Computer Issues Meeting Minutes - 8/12/08

Kevin,

The latest is that progress on board diagnostics and an effective RCA is painfully slow. I can't put my finger on the hold up whether it is lack of experience in SBC issues, internal processes or reluctance to get external help involved, but my impression and that of the Atlantis team is that this could be expedited much faster.

The failed SBC boards are manufactured from Motorola by FMC Norway, who install their own firmware. We knew this early last week and as of yesterday the boards had not made it back to FMC Norway enroute to Motorola for diagnosis.

From our part I have made my concerns very clear to the FMC After-market Team and both Ron Berger and I have advised that the current performance is not commensurate with our perceived risk. We have been able to free up Roy Chan, subsea controls engineer in Dave Turners team and assigned him full time to the Atlantis MCS issues to bird dog this issue. I plan to raise my concerns with FMC management both here and in Norway.

I suggest a conversation with Ron Berger and Bill Broman to see what else we can do to get some momentum going.

Regards

Ray

From: Kennelley, Kevin J
Sent: Tuesday, August 19, 2008 6:37 PM
To: Fleming, Ray H
Subject: RE: BP Atlantis Single Board Computer Issues Meeting Minutes - 8/12/08

What is the latest on this?

From: Fleming, Ray H
Sent: Wednesday, August 13, 2008 11:10 PM
To: Kennelley, Kevin J; Peloubet, Robert R
Subject: FW: BP Atlantis Single Board Computer Issues Meeting Minutes - 8/12/08

Kevin/Bob,

Please find attached minutes from the last two meetings on the recent Single Board Computer problems that the Atlantis Subsea Control System has been experiencing.

The Atlantis and Thunder Horse platforms each have 3 FMC supplied Subsea Power and Communication Unit (SPCU) cabinets on the topside facilities to power and communicate with the subsea control modules. Each SPCU has 4 Single Board Computers (SBC's). This is a total of 12 boards for each facility.

Atlantis have experienced a number of SBC failures and 6 boards have been taken to FMC facility since March 5th of this year. Of the 6 boards being tested, 3 do not respond when powered up, one partially re-boots but fails to re-boot completely and 2 appear to be working fine on the test bench without communications load. FMC currently do not know the root cause or causes of the failures. They are have started an investigation but I am concerned over the pace of the investigation and the availability of FMC or sub-supplier personnel who have intimate knowledge of the SBC design and operation.

Two boards failed on-line during the recent incident at the end of July. One board was re-seated and started working again and the other was sent onshore for analysis. During a subsequent inspection of SPCU cabinet 3 that was powered up but not communicating with any subsea control module, a number of board failures were identified. When a board fails on-line it stops communicating with the subsea controls and with the topside control system.

I can provide a more detailed update tomorrow if necessary.

Regards

Ray

From: Hartley, Jamie [mailto:Jamie.Hartley@fmcti.com]
Sent: Wednesday, August 13, 2008 1:06 PM
To: Hartley, Jamie (FMC); Oza, Nita; Leal, JJ (FMC); scott.leonard@jpkhouston.com; Cotton, Steven L; Berger, Ron K (Manatee); Furneaux, Dale (FMC); ERIK.BRISTOL@fmcti.com; Young, Brian J; Chan, Roy; Dean, Wayne (TECHNIP); Fleming, Ray H; McIntosh, Brian; Curran, Christopher J
Cc: LINH.THAI@fmcti.com; Goggans, Tim; ROBERT.HARDEE@fmcti.com; Shelagh.Osborn@fmcti.com; Mickey.Cotham@fmcti.com; WESTER, RANDY
Subject: BP Atlantis Single Board Computer Issues Meeting Minutes - 8/12/08

Here are the meeting minutes and action items from our meeting yesterday afternoon.

Attendees:

Scott Leonard
Ray Fleming
Brian Young
Ron Chan
Ron Berger
Jamie Hartley
Wayne Dean
JJ Leal
Dale Furneaux
Erik Bristol
Brian McIntosh
Bubba Hardee
Christopher Curran

Topics of discussion:

- Reviewed meeting minutes from the following weeks meeting (see e-mail below), one point of clarification regarding the interchangeability of the ATL and TH boards was noted. Though the boards are interchangeable, the configuration files on the TH boards are not the same as the configuration file on ATL boards. The configuration file can be changed as needed in the field by FMC topsides engineering should situation arise where the TH boards are needed to replace ATL boards.
- In addition to the spare board that currently resides in cabinet #3 on the PQ there are two spare boards that are on-hand at FMC for the CWTU. If required the CWTU itself contains two boards which could be removed and mobilized to the PQ in addition to the two spare CWTU boards. This brings the total number of ATL available spare replacement boards to five (5).
- Evaluation of the four boards returned from offshore resulted in 3 of the 4 boards being "bad", that is they failed to boot/power up. One of the four boards began but did not complete the boot/power up process and hung up. The software was evaluated and was not corrupt, therefore the boards themselves, which are manufactured by Motorola, are now in question. In addition to the 4 fours recently returned to FMC, there are two additional boards that where returned to FMC earlier in the year, these boards power/boot up normally.
- An RCA team should include representatives from Motorola, BP and FMC.

Action items from this meeting:

- Who from bp should be included in the RCA team – Ron Berger
- How many TH boards are not currently in use and could be utilized if needed by ATL – Christopher Curran
- What information is needed from the PQ to aid in the RCA effort – Dale Furneaux and Brian McIntosh
- Firmware upgrade for TH and ATL, scope of work/plan for PDQ and PQ – Dale Furneaux and JJ Leal
- Contact FMC Norway to get Motorola involved in evaluating the boards and participating in RCA – Brian McIntosh and Jamie Hartley

Open Actions items from last meeting:

- Develop a fault/logic tree for the investigation into the root cause of the issue by 8/08 – Dale Furneaux **NOTE: This will be done as part of the RCA**
- Investigate the equipment availability and setup of a test rig for evaluating the boards and for future use as personnel training device – Steve Cotton
- What is the current topside system configuration, i.e. map which wells are being supported by which cabinet and slot – Nita Oza
- FMC to provide weekly e-mail updates and/or establish weekly meeting to discuss root cause analysis (RCA) – Brian McIntosh **NOTE: On-going, meeting occurs every Tuesday at FMC CS Building from 3:30 to 5 pm**

Let me know if I've incorrectly stated or missed anything.

Regards,

Jamie Hartley
Customer Support Engineering Manager
E: jamie.hartley@fmcti.com | P: 281 591 8009

From: Hartley, Jamie
Sent: Wednesday, August 06, 2008 10:24 AM
To: ozan@bp.com; Leal, JJ (JJ.Leal@fmcti.com); Scott Leonard (scott.leonard@jpkhouston.com); Steven Cotten (steven.cotton@bp.com); Ron Berger

(ron.berger@bp.com); Furneaux, Dale (Dale.Furneaux@fmcti.com); Bristol, Erik (ERIK.BRISTOL@fmcti.com)
Cc: THAI, LINH (LINH.THAI@fmcti.com); Goggans, Tim; BUBBA HARDEE (ROBERT.HARDEE@fmcti.com); McIntosh, Brian; Shelagh Osborn (Shelagh.Osborn@fmcti.com)
Subject: BP Atlantis Single Board Computer Issues Meeting Minutes - 8/04/08

I'm sending out this e-mail to everyone to capture the meeting minutes and action items from our meeting Monday afternoon. I do not have Ray Fleming, or Roy Chan's e-mail address, Nita could you please forward this message on to them for me, thanks.

Attendees:

Scott Leonard
Ray Fleming
Roy Chan
Steve Cotton
Ron Berger
Jamie Hartley
Nita Oza
JJ Leal
Dale Furneaux
Erik Bristol
Brian McIntosh
Bubba Hardee

The following event log was presented to illustrate to issues to date:

Date	TPU Location	Event
2/29/2008	C1 1A	Problems with 123A, 124A, 143A
3/5/2008	C1 1A	Swapped board with platform's spare. Board brought back to FMC.
6/20/2008	C2 1B	Board stopped communicating
6/27/2008	C2 1B	Swapped board with C3 1A. Brought board back to FMC.
6/30/2008	C2 1B	Board worked at FMC
7/27/2008	C2 1B (original C3 1A)	Board stopped communicating
7/29/2008	C2 1A	Board stopped communicating
7/30/2008	C2 1A	Worked after board was reseated
7/30/2008	C2 1B (original C3 1A)	Swapped with new board. Will be brought back to FMC.
7/30/2008	C1 1A (original)	Board worked at FMC
7/30/2008	C3 1B	Noticed board not communicating. Will be brought back to FMC.
7/30/2008	C3 2B	Noticed board not communicating. Will be brought back to FMC.

Topics of discussion:

- Boards are not currently utilizing the latest software, consideration should be given to upgrading at some point. Software revision was not deemed relevant to issue at hand and it would not be wise to implement without first performing tests to understand what the implications are.
- Issuing a choke command followed by a choke stop command is known problem and will cause the boards to drop out. This problem is well documented and recommend that Operations team investigate the current use of this command.
- Currently there is only one spare board available on PQ that could be utilized in the event another board exhibits similar behavior.
- The BPTH boards are interchangeable with the Atlantis boards and could be utilized if necessary.
- Normal lead time for receipt of these boards from Norway is 75 days, this duration includes accounts for ordering boards and having firmware loaded, and the shipment to Houston. Boards are manufactured by Motorola and loaded with FMC firmware in Norway prior to shipment to Houston.
- Two boards returned from offshore have been successfully been powered up at FMC, but it has not been possible function them in manner consistent with actual field conditions. Non FMC supplied topsides control equipment may be available from BP for use in developing a test rig for evaluating the performance of the boards in question.
- Four boards recently replaced offshore are currently in transit from PQ to FMC for evaluation.
- FMC Norway has been advised of the performance issues experienced to date. They are providing personnel to aid in the troubleshooting and root cause analysis work. Norway is currently investigating if their have been any past performance issues of similar nature related to this equipment.
- FMC Houston Controls Product Group management and CS management are aware of the issue and are actively ensuring proper resources as well as priority is established for root cause analysis given the potential impact to both Atlantis and Thunder Horse operations.

Action Items:

- What is the status of the boards that are currently on order with FMC Norway – Erik Bristol, 8/06 update: Expedited delivery is last week of

September.

- Develop a fault/logic tree for the investigation into the root cause of the issue by 8/08 – Dale Furneaux
- Investigate the equipment availability and setup of a test rig for evaluating the boards and for future use as personnel training device – Steve Cotton
- What is the current topside system configuration, i.e. map which wells are being supported by which cabinet and slot – Nita Oza
- FMC to provide weekly e-mail updates and/or establish weekly meeting to discuss root cause analysis (RCA) – Brian McIntosh, 8/06 update: Next meeting at FMC on 8/12 at 3:30pm, thanks Ron.
- FMC to evaluate and power up the four boards recently replaced offshore upon receipt – Dale Furneaux, 8/06 update: Have received the boards, testing to begin today

Regards,

Jamie Hartley
Customer Support Engineering Manager
E: jamie.hartley@fmcti.com | P: 281 591 8009

FMC Technologies, Inc
11220 TC Jester | Houston, TX | 77067 USA
P: 281 591 4400
www.fmctechnologies.com

From: Kennelley, Kevin J <kennelkj@bp.com>
Sent: Monday, August 25, 2008 10:19 PM
To: Broman, William H(HOU) <william.broman@bp.com>; Fleming, Ray H <Ray.Fleming@bp.com>
Cc: Oza, Nita <Nita.Oza@bp.com>; Berger, Ron K (Manatee) <ron.berger@bp.com>; Peloubet, Robert R <Robert.Peloubet@bp.com>
Subject: RE: BP Atlantis Single Board Computer Issues Meeting Minutes - 8/12/08

Bill, this has the potential to shut you down if not aggressively managed so it is good that you are on top iof it. Encourage you to keep it that way.

From: Broman, William H(HOU)
Sent: Friday, August 22, 2008 11:59 AM
To: Fleming, Ray H
Cc: Oza, Nita; Berger, Ron K (Manatee); Kennelley, Kevin J; Peloubet, Robert R; Broman, William H(HOU)
Subject: RE: BP Atlantis Single Board Computer Issues Meeting Minutes - 8/12/08

Ray, I totally agree on the SCM issue. As soon as the review is completed around the DC122 SCM issues we will pull it if warranted. In my discussions with George Bradley and Robert Noe we did discuss the potentials around what could be hiding in the SCM and the wider implications to BP.

George assured me that Norway was onboard and we will keep the heat turned up on them.

Bill Broman
Atlantis Subsea Delivery Manager
GOM Deepwater
281-249-1337 office
william.broman@bp.com

From: Fleming, Ray H
Sent: Friday, August 22, 2008 11:41 AM
To: Broman, William H(HOU)
Cc: Oza, Nita; Berger, Ron K (Manatee); Kennelley, Kevin J; Peloubet, Robert R
Subject: RE: BP Atlantis Single Board Computer Issues Meeting Minutes - 8/12/08

Bill,

Thanks for the update. I get a sense that the FMC Houston are getting the message. They in turn need to impress the need for FMC Norway to act. For me it was not so much to speed of response rather than the sense that they didn't seem to know what to do, could not provide an outline plan and seemed to be spinning their wheels and not engaging fully with Norway or Motorola.

Regarding the 122 SCM, the initial SEM RAM problem was identified by FMC as a batch issue. It will be interesting to see if this RAM on SCM 122 is from the 'bad' batch and you have not been informed, or this problem is indicative of another batch of problematic or bad RAMs or if there is a separate RAM problem. If it is another batch of bad RAM the problem may affect more pods on Atlantis, Thunder Horse, Na Kika and Block 18. It is important to get to the bottom of this ASAP. A SCM retrieval, sooner rather than later may help expedite the answer.

Regards

Ray

From: Broman, William H(HOU)
Sent: Thursday, August 21, 2008 9:58 PM
To: Fleming, Ray H
Cc: Oza, Nita; Berger, Ron K (Manatee); Kennelley, Kevin J; Peloubet, Robert R; Broman, William H(HOU)
Subject: RE: BP Atlantis Single Board Computer Issues Meeting Minutes - 8/12/08

I had an extended discussion with FMC management yesterday and was given full assurance that they would get the heat cranked up. I had a detailed message this morning from George Bradley with the progress today and what is now in place for Norway and Houston for support. Ron tells me that they are getting increased focus and I will continue to have discussions with FMC on keeping focus.

One item we seem to be getting to is the potential that the 122 SCM may have a SEM RAM issue similar to the ongoing recalls from FMC and we are exploring this with the potential to need to recover the 122 SCM.

Bill Broman
Atlantis Subsea Delivery Manager
GOM Deepwater
281-249-1337 office
william.broman@bp.com

From: Fleming, Ray H
Sent: Thursday, August 21, 2008 4:55 PM
To: Broman, William H(HOU)
Cc: Oza, Nita; Berger, Ron K (Manatee); Kennelley, Kevin J; Peloubet, Robert R
Subject: FW: BP Atlantis Single Board Computer Issues Meeting Minutes - 8/12/08

Bill,

FYI

Ron is doing a good job trying to light a fire under the FMC aftermarket folks but progress is still sluggish. It may now be highly appropriate to raise this matter at a more senior level within FMC. This would be more appropriate coming from you.

Regards

Ray

From: Fleming, Ray H
Sent: Wednesday, August 20, 2008 7:42 AM
To: Kennelley, Kevin J
Subject: RE: BP Atlantis Single Board Computer Issues Meeting Minutes - 8/12/08

Kevin,

The latest is that progress on board diagnostics and an effective RCA is painfully slow. I can't put my finger on the hold up whether it is lack of experience in SBC issues, internal processes or reluctance to get external help involved, but my impression and that of the Atlantis team is that this could be expedited much faster.

The failed SBC boards are manufactured from Motorola by FMC Norway, who install their own firmware. We knew this early last week and as of yesterday the boards had not made it back to FMC Norway enroute to Motorola for diagnosis.

From our part I have made my concerns very clear to the FMC After-market Team and both Ron Berger and I have advised that the current performance is not commensurate with our perceived risk. We have been able to free up Roy Chan, subsea controls engineer in Dave Turners team and assigned him full time to the Atlantis MCS issues to bird dog this issue. I plan to raise my concerns with FMC management both here and in Norway.

I suggest a conversation with Ron Berger and Bill Broman to see what else we can do to get some momentum going.

Regards

Ray

From: Kennelley, Kevin J
Sent: Tuesday, August 19, 2008 6:37 PM
To: Fleming, Ray H
Subject: RE: BP Atlantis Single Board Computer Issues Meeting Minutes - 8/12/08

What is the latest on this?

From: Fleming, Ray H
Sent: Wednesday, August 13, 2008 11:10 PM
To: Kennelley, Kevin J; Peloubet, Robert R
Subject: FW: BP Atlantis Single Board Computer Issues Meeting Minutes - 8/12/08

Kevin/Bob,

Please find attached minutes from the last two meetings on the recent Single Board Computer problems that the Atlantis Subsea Control System has been experiencing.

The Atlantis and Thunder Horse platforms each have 3 FMC supplied Subsea Power and Communication Unit (SPCU) cabinets on the topside facilities to power and communicate with the subsea control modules. Each SPCU has 4 Single Board Computers (SBC's). This is a total of 12 boards for each facility.

Atlantis have experienced a number of SBC failures and 6 boards have been taken to FMC facility since March 5th of this year. Of the 6 boards being tested, 3 do not respond when powered up, one partially re-boots but fails to re-boot completely and 2 appear to be working fine on the test bench without communications load. FMC currently do not know the root cause or causes of the failures. They are have started an investigation but I am concerned over the pace of the investigation and the availability of FMC or sub-supplier personnel who have intimate knowledge of the SBC design and operation.

Two boards failed on-line during the recent incident at the end of July. One board was re-seated and started working again and the other was sent onshore for analysis. During a subsequent inspection of SPCU cabinet 3 that was powered up but not communicating with any subsea control module, a number of board failures were identified. When a board fails on-line it stops communicating with the subsea controls and with the topside control system.

I can provide a more detailed update tomorrow if necessary.

Regards

Ray

From: Hartley, Jamie [mailto:Jamie.Hartley@fmcti.com]
Sent: Wednesday, August 13, 2008 1:06 PM
To: Hartley, Jamie (FMC); Oza, Nita; Leal, JJ (FMC); scott.leonard@jpkhouston.com; Cotton, Steven L; Berger, Ron K (Manatee); Furneaux, Dale (FMC); ERIK.BRISTOL@fmcti.com; Young, Brian J; Chan, Roy; Dean, Wayne (TECHNIP); Fleming, Ray H; McIntosh, Brian; Curran, Christopher J
Cc: LINH.THAI@fmcti.com; Goggans, Tim; ROBERT.HARDEE@fmcti.com; Shelagh.Osborn@fmcti.com; Mickey.Cotham@fmcti.com; WESTER, RANDY
Subject: BP Atlantis Single Board Computer Issues Meeting Minutes - 8/12/08

Here are the meeting minutes and action items from our meeting yesterday afternoon.

Attendees:

Scott Leonard
Ray Fleming
Brian Young
Ron Chan
Ron Berger
Jamie Hartley
Wayne Dean
JJ Leal
Dale Furneaux
Erik Bristol
Brian McIntosh
Bubba Hardee
Christopher Curran

Topics of discussion:

- Reviewed meeting minutes from the following weeks meeting (see e-mail below), one point of clarification regarding the interchangeability of the ATL and TH boards was noted. Though the boards are interchangeable, the configuration files on the TH boards are not the same as the configuration file on ATL boards. The configuration file can be changed as needed in the field by FMC topsides engineering should situation arise where the TH boards are needed to replace ATL boards.
- In addition to the spare board that currently resides in cabinet #3 on the PQ there are two spare boards that are on-hand at FMC for the CWTU. If required the CWTU itself contains two boards which could be removed and mobilized to the PQ in addition to the two spare CWTU boards. This brings the total number of ATL available spare replacement boards to five (5).
- Evaluation of the four boards returned from offshore resulted in 3 of the 4 boards being "bad", that is they failed to boot/power up. One of the four boards began but did not complete the boot/power up process and hung up. The software was evaluated and was not corrupt, therefore the boards themselves, which are manufactured by Motorola, are now in question. In addition to the 4 fours recently returned to FMC, there are two additional boards that where returned to FMC earlier in the year, these boards power/boot up normally.
- An RCA team should include representatives from Motorola, BP and FMC.

Action items from this meeting:

- Who from bp should be included in the RCA team – Ron Berger
- How many TH boards are not currently in use and could be utilized if needed by ATL – Christopher Curran
- What information is needed from the PQ to aid in the RCA effort – Dale Furneaux and Brian McIntosh
- Firmware upgrade for TH and ATL, scope of work/plan for PDQ and PQ – Dale Furneaux and JJ Leal
- Contact FMC Norway to get Motorola involved in evaluating the boards and participating in RCA – Brian McIntosh and Jamie Hartley

Open Actions items from last meeting:

- Develop a fault/logic tree for the investigation into the root cause of the issue by 8/08 – Dale Furneaux **NOTE: This will be done as part of the RCA**
- Investigate the equipment availability and setup of a test rig for evaluating the boards and for future use as personnel training device – Steve Cotton
- What is the current topside system configuration, i.e. map which wells are being supported by which cabinet and slot – Nita Oza
- FMC to provide weekly e-mail updates and/or establish weekly meeting to discuss root cause analysis (RCA) – Brian McIntosh **NOTE: On-going, meeting occurs every Tuesday at FMC CS Building from 3:30 to 5 pm**

Let me know if I've incorrectly stated or missed anything.

Regards,

Jamie Hartley
Customer Support Engineering Manager
E: jamie.hartley@fmcti.com | P: 281 591 8009 | M: 281 782 6873

From: Hartley, Jamie
Sent: Wednesday, August 06, 2008 10:24 AM
To: ozan@bp.com; Leal, JJ (JJ.Leal@fmcti.com); Scott Leonard (scott.leonard@jpkhouston.com); Steven Cotten (steven.cotton@bp.com); Ron Berger (ron.berger@bp.com); Furneaux, Dale (Dale.Furneaux@fmcti.com); Bristol, Erik (ERIK.BRISTOL@fmcti.com)
Cc: THAI, LINH (LINH.THAI@fmcti.com); Goggans, Tim; BUBBA HARDEE (ROBERT.HARDEE@fmcti.com); McIntosh, Brian; Shelagh Osborn (Shelagh.Osborn@fmcti.com)
Subject: BP Atlantis Single Board Computer Issues Meeting Minutes - 8/04/08

I'm sending out this e-mail to everyone to capture the meeting minutes and action items from our meeting Monday afternoon. I do not have Ray Fleming, or Roy Chan's e-mail address, Nita could you please forward this message on to them for me, thanks.

Attendees:

Scott Leonard
Ray Fleming
Roy Chan
Steve Cotton
Ron Berger
Jamie Hartley
Nita Oza
JJ Leal
Dale Furneaux
Erik Bristol
Brian McIntosh
Bubba Hardee

The following event log was presented to illustrate to issues to date:

Date	TPU Location	Event
2/29/2008	C1 1A	Problems with 123A, 124A, 143A
3/5/2008	C1 1A	Swapped board with platform's spare. Board brought back to FMC.
6/20/2008	C2 1B	Board stopped communicating
6/27/2008	C2 1B	Swapped board with C3 1A. Brought board back to FMC.
6/30/2008	C2 1B	Board worked at FMC
7/27/2008	C2 1B (original C3 1A)	Board stopped communicating
7/29/2008	C2 1A	Board stopped communicating
7/30/2008	C2 1A	Worked after board was reseated
7/30/2008	C2 1B (original C3 1A)	Swapped with new board. Will be brought back to FMC.
7/30/2008	C1 1A (original)	Board worked at FMC
7/30/2008	C3 1B	Noticed board not communicating. Will be brought back to FMC.
7/30/2008	C3 2B	Noticed board not communicating. Will be brought back to FMC.

Topics of discussion:

- Boards are not currently utilizing the latest software, consideration should be given to upgrading at some point. Software revision was not deemed relevant to issue at hand and it would not be wise to implement without first performing tests to understand what the implications are.
- Issuing a choke command followed by a choke stop command is known problem and will cause the boards to drop out. This problem is well documented and recommend that Operations team investigate the current use of this command.
- Currently there is only one spare board available on PQ that could be utilized in the event another board exhibits similar behavior.
- The BPTH boards are interchangeable with the Atlantis boards and could be utilized if necessary.
- Normal lead time for receipt of these boards from Norway is 75 days, this duration includes accounts for ordering boards and having firmware loaded, and the shipment to Houston. Boards are manufactured by Motorola and loaded with FMC firmware in Norway prior to shipment to Houston.
- Two boards returned from offshore have been successfully been powered up at FMC, but it has not been possible function them in manner consistent with actual field conditions. Non FMC supplied topsides control equipment may be available from BP for use in developing a test rig for evaluating the performance of the boards in question.
- Four boards recently replaced offshore are currently in transit from PQ to FMC for evaluation.
- FMC Norway has been advised of the performance issues experienced to date. They are providing personnel to aid in the troubleshooting and

root cause analysis work. Norway is currently investigating if their have been any past performance issues of similar nature related to this equipment.
- FMC Houston Controls Product Group management and CS management are aware of the issue and are actively ensuring proper resources as well as priority is established for root cause analysis given the potential impact to both Atlantis and Thunder Horse operations.

Action Items:

- What is the status of the boards that are currently on order with FMC Norway – Erik Bristol, 8/06 update: Expedited delivery is last week of September.
- Develop a fault/logic tree for the investigation into the root cause of the issue by 8/08 – Dale Furneaux
- Investigate the equipment availability and setup of a test rig for evaluating the boards and for future use as personnel training device – Steve Cotton
- What is the current topside system configuration, i.e. map which wells are being supported by which cabinet and slot – Nita Oza
- FMC to provide weekly e-mail updates and/or establish weekly meeting to discuss root cause analysis (RCA) – Brian McIntosh, 8/06 update: Next meeting at FMC on 8/12 at 3:30pm, thanks Ron.
- FMC to evaluate and power up the four boards recently replaced offshore upon receipt – Dale Furneaux, 8/06 update: Have received the boards, testing to begin today

Regards,

Jamie Hartley
Customer Support Engineering Manager
E: jamie.hartley@fmcti.com | P: 281 591 8009

FMC Technologies, Inc
11220 TC Jester | Houston, TX | 77067 USA
P: 281 591 4400
www.fmctechnologies.com

From: Duff, Barry C
Sent: Tuesday, August 26, 2008 3:30:01 PM
To: Cavalier, Rebecca (Turner & Townsend); Clark, Alan (Clover); Curry, James (T&T); Curtis, Tinikka (NES); Kahlden, Ken M (Clover); Ken Abbott (kwabbott@comcast.net); McGregor, Douglas (Turner & Townsend); Walsh, Jay (NES OVERSEAS USA LLC)
CC: Ken Abbott (kwabbott@comcast.net)
Subject: Staff Meeting Notes

Folks,

Below are some notes from today's and last weeks staff meeting.

General

HSSE

- Review hurricane preparedness. Hurricane Gustav has made landfall in Haiti with 90 mph winds (Category 1). It is still early to tell, but it is currently head our way.
- New Technip HSSE Manual was distributed. Please review, especially the updated muster area (north side of parking garage between garage and residential fence).

FMC Invoices

- We are building up quite a few invoices. Please review the overdue list and work with the respective leads to resolve them and get FMC paid.

DC-1/SS-2

- Installation of Man-3 will be part of a full field/PQ Shutdown. Man-3 schedule is out for review.
- RTI has completed the second header for Man-3. Man-3 is scheduled to come out of the Homa Test Facility on 2/15/09. Alternatives to the Homa Facility are being investigated.
- OSI has started welding the Man-3 headers.
- A shipment of hubs arrived at RTI today.
- Headers may lead the valve clusters for the second manifold.
- Current schedule for Man-2 and 4 installation is showing a 6-10 day shutdown.
- RTI is continuing to work F22 procedure.
- 2 more FAMs to ship over the next two weeks. James, check with Rick on cost and schedule impacts
- The National Coupler issue has been resolved. James, check with Rick on cost and schedule impacts.
- Omega is working on a new pile interface structure in addition to the manifold frames.
- "Gremlins' are in the control system and are being worked. Two Pods have been sent back to Norway due to RAM/Card issues. James, check with David Whitehead on cost and schedule impacts.

- Completed DC-142. Tie-in is scheduled in two weeks. Jumpers are fabricated. Dual barrier schedule is out for review.

- Moved over to DC-121 "A" well. This one will drill into the DC-3 area and will help us assess the potential there. Jumper fabrication has begun.

- MOC is routing for changing the metallurgy on the WI tree tubing hangers.

- Have decided to purchase 8 heavy CAT Tools for SS-2 instead of 4 heavy and 4 lites. Have also ordered 2 max 8 conversion kits. Alan, make sure you have this covered in your forecast.

DC-3

- Flowline commissioning will begin in early October using the Tosia Perseus. Will be using completion brine fluid to pickle with. This will require a MOC.

- U PLEM is progressing at Omega. RTI is progressing the U PLEM components.

Phase II

- Order for 8 production trees and control order is being routed for approval.

- DC-3 Expansion Umbilical is in Nexan's shop. Kickoff meeting is scheduled for November.

- New QA/QC Standards have been agreed to with FMC.

- Garrick Malone is developing a new Design Basis document.

Staff

- Decio is leaving the project this week and moving to Dorado. Tinikka, meet with him to determine the status of his deliverables and who is going to handle closing them out and performing the turnover.

- FMC is re-organizing along product lines. Scott Green will become the new Tree Lead. Scott is being replaced by Trice (sp?) Campbell.

- New Technip Controls Engineer started.

Please contact me if you have any questions.

Best Regards,

Barry C. Duff

BP DW GoM Production
Atlantis Subsea Team
11700 Old Katy Road, Suite 150
Office number 4.64
Houston, Texas 77079
Office: +1 (281) 249-1510

Fax: +1 (281) 249-4323
Together, we will make Atlantis the safest, cleanest, most reliable and best performing asset!

From: Berger, Ron K (Manatee)
Sent: Tuesday, August 26, 2008 6:45:22 PM
To: Broman, William H(HOU)
CC: Oza, Nita; Young, Brian J; Chan, Roy; Fleming, Ray H; Cotton, Steven L
Subject: RE: news on FMC issues

Discovery Ex. No. 223
Cause No.
4:09-cv-01193
Abbott v. BP

This is an overview of everything that is going on relative to the issues we are experiencing on the subsea control system and current status.

- Single Board Computers (SBC) - Atlantis has now experienced 7 alleged SBC failures. 5 of the 7 failures are reproducible. 2 of the 7 allegedly failed boards appear to work in the test rack onshore. One failure was very recently experienced on DC113/114. The 3 SPCU cabinets that house the subsea portion of the control system only contain slots for 12 boards. 3 of the slots are empty as a result of robbing for spares. 1 slot currently contains a dead board (DC113/114 B side). Below summarizes the SBC specific work ongoing:
  - The magnitude of the SBC issues were not fully realized until an SPCU entry occurred on July 30 as a result of an undetected dual comms loss on DC111/112. During the intervention entry, it was determined that the two SBC associated with DC111/DC112 failed. It was also realized that two additional SBC were not working in SCPU #3 either. Up to this point, no failures existed. All previous interventions were pre-cautionary (i.e. SBC that were pulled functioned normally onshore). As a result of the DC111/112 SBC failure, an MVI alarm was then made visible on the well HMI to ensure the Subsea CRO could identify a lost comm associated with the SBC.
  - There one working SBC in SPCU 3 is not currently dedicated for use with the existing wells. No other spares are currently available offshore. The card in SPCU 3 could be pulled for an emergency spare. There are 4 cards that are immediately available to Atlantis as part of a DDII IWOCS project in Houston. 6 additional cards have been put on order as operational spares for PQ. The order is currently being re-evaluated (lead time is ~ 8 weeks at $10,000 / card) with 1st delivery at the end of September.
  - An RCFA is in process with FMC that includes BP participation. A BP control engineer (Roy Chan) has been assigned as the lead for BP interest in this effort. The FMC lead in the RCFA is Brian McIntosh. Ray Fleming, BP Subsea TA is also involved. The scope of the RCFA includes collection of environmental and utility data from offshore as well as initiation of cradle to grave traceability on all Atlantis SBC.
  - This SBC issue has been networked with Thunderhorse (Chris Curran, SS Control Lead) and Deepwater Operations (Dave Turner's group). Thunderhorse has a subsea system with very similar design and utilizes same boards as Atlantis. Some of the Thunderhorse SBC could be accessed as spares in an emergency with some configuration changes.
  - Motorola is the manufacturer of the boards, through one of KOS' subcontractors. KOS works out of Norway. FMC Houston must work through Norway for all the technical expertise. Norway, in turn interfaces / manages their sub vendor who procures the cards from Motorola. Motorola participation is extremely key and this requirement has been communicated very high into the FMC organization.
  - Three faulty, Atlantis SBC's arrived in Norway on 8/20 and have been under testing by both Norway and their sub vendor with identical results. The sub vendor is now in contact with Motorola for further investigation.
  - An Honeywell onshore test rack is being procured by BP to more accurately simulate the offshore interfaces between the Honeywell supplied SCU and the FMC supplied SPCU. Specifications of the test system will be same as proposed last fall when test system was proposed but not funded by Operations. A complete test kit will be approximately $40,000. Thunderhorse has offered to pay for 1/2 the cost of the system.
  - DC113/114 are currently operating with only one functional line as a result of SBC failure. A technician is scheduled to be mobilized 8/27 for trip offshore to replace card and update configuration.
  - The DC113/114 SBC failure highlighted a comms detection issue. The lost communications on this card went undetected by the MVI card in the SCU. The MVI alarm posted on the HMI (as a result of DC111/112 intervention) did not detect the failed DC113/114 SBC. This failure to detect lost communication is a non-compliance with the ESD safety logic of the subsea system. An RFA is currently underway to investigate installation of a electronic watchdog to monitor the communication link. The Operations leadership has been advised of this non-compliance. No MMS notification has been made through the Subsea Operations staff.
  - FMC has reported that a firmware update is available for the SBC. The firmware update corrects many known issues / bugs. At this time, it is agreed that the firmware is not the likely root cause of the SBC failures seen. However, update to the firmware will eventually be necessary. A Project Execution Plan will be developed to change out the firmware, including all the necessary testing that will need to be conducted prior to change-out. The Honeywell onshore test rack will be utilized for some of the testing.
  - An option to utilize the offshore Automation Technicians in the onshore testing (with Honeywell onshore test rack) was proposed and is currently being evaluated with no outcome at this point.
  - Until resolution of the SBC issues are complete (as well as other issues), a standing request has been left with the PQ to leave Smart-Tool operational so that valuable diagnostic data is recorded during each event. Furthermore, diagnostic logs are now transmitted daily to onshore staff for review and archiving. A request has

also been made for Operations to stand-down on manual resets of any SBC by PQ personnel unless necessary in an emergency. The recommended course to isolate any issue is to open the line breaker on the affected channel until FMC personnel can be called in to intervene.

- The ACE has been successfully used on several same-day call-outs and has eliminated the need to send personnel offshore when SBC board replacement has not been required. With proper training of offshore personnel and available procedures, it has been determined that PQ staff could perform SBC change-outs offshore, and FMC technicians can perform all configuration changes remotely from the ACE. This remediation option has not been put into effect at this time.

- The DC122 Uncommanded Shut-in on 10-Aug - DC122 shut-in at 7:20 am on Aug-10. Honeywell event logs indicated that no commands were sent from the PQ to cause shut-in. The only event coincident with the shut-in was a lost communication that occurred on Line A of DC122. Later, it was confirmed with FMC that the subsea controls design is always fail in a lost comm's / lost power situation (a hydraulic umbilical blow-down is last resort to facilitate shut-in of latter). Shut-in of a value should only occur with a command. Diagnostics later determined that SEM A on DC122 was frequently failing to reply to commands from it's SBC. Smart-tool logs also confirmed that no valve commands were sent to DC122 at 7:20 am. Review of internal status buffers in SCM revealed a CPU RAM warning. This warning, in conjunction with frequent failures on side A, and the current industry warning regarding CPU rams led to a recommendation by FMC to shut-down DC122 side A which is current situation. The ongoing SBC issue is NOT believed to be the cause of this problem. Evaluation for replacement of the SCM is underway.
- DC113 AMV Software Changes - The failure of the DC113 AMV actuator has led to procurement of an external actuator. Control of the external actuator is only practical through changes of software resident on the SBC. The software for the DC113/114 SBC has been modified and successfully tested onshore in the FMC pod lab. An intervention offshore is schedule to begin on Aug-27 (coincident with DC113/114 SBC failure change-out). The DC113 / DC114 wells will be shut-in prior to installation so that control of the wells can be safely test after the software is installed.

From: Thomas, Dennis J
Sent: Tuesday, August 26, 2008 5:44:48 PM
To: Berger, Ron K (Manatee)
Subject: RE: Automation Techs on Atlantis

Attachments: 08252008.zip

08252008.zip
(262 kB)

From: Berger, Ron K (Manatee)
Sent: Tuesday, August 26, 2008 2:12 PM
To: Thomas, Dennis J
Cc: Little, Joshua J; Laborde, David (Baker/MO); Snow, Jeff R; Gipson, Les; Oza, Nita
Subject: RE: Automation Techs on Atlantis

Dennis,

I had a standing request with jeff to send me the previous days' fmc smart tool log files. I'm sending this note only because I did not receive any this am. It's possible your tied up at the moment with the shut-down this morning and if so, just send them when you get to it. I just wanted to cover the possibilty that it was potentially missed in the handover and you did not know anything about it.

To get the smart tool files is simple. Just get onto the Pc that access' smart-tool. Navigate to the directory below and copy all the txt files to a flash drive or portable media. The files wanted will have previous days date as part of the file name (see example below). There are 3 files needed: reportXXXXXX.txt, commandXXXXXX.txt and traceXXXXXX.txt. Just email them. We want to keep doing this until we have all the control issues settled out. Attached is an email with an example. Note that there is another file (smarttoollog.txt) but we don't need it every day. We will ask for it on a case by case basis.

```
Directory     C:\smartTool_150\report_logs
Files         everything with the date 8/15/2008 (e.g. report080815.txt, etc.)
File          smarttoollocallog.txt (this is the biggest file in the directory)
```

Ron

<< Message: Emailing: SMT_Logs_20080820.zip >>

From: Thomas, Dennis J
Sent: Tuesday, August 26, 2008 7:39 AM
To: Berger, Ron K (Manatee)
Cc: Little, Joshua J; Laborde, David (Baker/MO)
Subject: Automation Techs on Atlantis

Ron,

There are 4 automation techs on Atlantis and we all share the same responsibilites. Jeff has been forwarding your correspondences to me, but it would be easier if you just add the rest of us to your list.

Thanks,

Dennis

From: Worsley, Mark TC
Sent: Thursday, August 28, 2008 2:13:27 PM
To: Martyniak, Paul J; Oza, Nita
Subject: RE: news on FMC issues

Nita, Paul; If you two are in agreenment - lets have a telecon to see how we can move this forward - Wrsle.

From: Martyniak, Paul J
Sent: 28 August 2008 13:15
To: Worsley, Mark TC; Oza, Nita
Cc: Tooms, Paul J; Brookes, David
Subject: RE: news on FMC issues

Nita/Mark, thanks for the update. I would agree that certainly we need to better co-ordinate our work with FMC on subsea controls - especially as their resources appear thinly stretched to cover all their customers. A number of the points below are also relevant to Angola Blk18 as we too have experienced control module failures and subsea comms issues. I have started a monthly update for Bk18 subsea controls which can be distributed to whoever needs it. Hope you find this helpful.

Regards,

Paul Martyniak
Subsea Controls Technical Authority
BP Greater Plutonio Operations Team
Office Phone: +44 (0) 1932 756561

Eml: martp8@bp.com

BP Exploration Operating Company Limited.
Registered office: Chertsey Road,
Sunbury on Thames, Middlesex, TW16 7BP.
Registered in England and Wales, number 305943.

<< File: GPP Subsea Controls Update Jun_July08.pdf >>

From: Worsley, Mark TC
Sent: 27 August 2008 17:47
To: Oza, Nita; Martyniak, Paul J
Cc: Tooms, Paul J; Brookes, David
Subject: RE: news on FMC issues

Nita - Thanks for the follow up email to our conversation - hope travel back to US safe and sound !

Paul - felt you should see/be aware of Atlantis control system problems - community of practice - FMC system - and all that -

Methinks we should very possibly have some combined interests here - and that we should be dealing with such control systems problems on a more joined up basis - ie corporate centre have a view and participate (if necessary) in ensuring FMC bring the correct level of resources to bear in resolving these problems - without robbing peter to pay paul (not Tooms) - if you see what I mean - I have cc'd Paul Tooms and Dave Brookes as I believe that we should at least be speaking with common voice with FMC controls...they do get access occaisionally to FMC at the higher echelons; Further - where appropriate we should be creating the link between assets - where help - and resource can be shared - Bl 18 has some measure of semi - permanent presence in Knogsberg, and I consider it could be possible to utilise this resource to assist Atlantis in PM,QA and QC, locally.

Will follow early next week - as am on JV duty for bl 17 stuff today and tomorrow.
As ever. Wrsle.

From: Oza, Nita
Sent: 27 August 2008 13:51
To: Worsley, Mark TC; Martyniak, Paul J
Subject: FW: news on FMC issues

Mark, the following note has been put together by Ron Berger and details the issues we have been having so far.

Paul, I had spoken to mark late last week, and was recommended by Mark to touch base with you to
1. share our issues with you
2. also ask whether you are having similar problems.

Please let me know.

Kind regards
Nita Oza
Atlantis Operations
Onshore Subsea Team Lead
Office: 281 366 3901

From: Berger, Ron K (Manatee)
Sent: Tuesday, August 26, 2008 5:45 PM
To: Broman, William H(HOU)
Cc: Oza, Nita; Young, Brian J; Chan, Roy; Fleming, Ray H; Cotton, Steven L
Subject: RE: news on FMC issues

This is an overview of everything that is going on relative to the issues we are experiencing on the subsea control system and current status.

- Single Board Computers (SBC) - Atlantis has now experienced 7 alleged SBC failures. 5 of the 7 failures are reproducible. 2 of the 7 allegedly failed boards appear to work in the test rack onshore. One failure was very recently experienced on DC113/114. The 3 SPCU cabinets that house the subsea portion of the control system only contain slots for 12 boards. 3 of the slots are empty as a result of robbing for spares. 1 slot currently contains a dead board (DC113/114 B side). Below summarizes the SBC specific work ongoing:
  - The magnitude of the SBC issues were not fully realized until an SPCU entry occurred on July 30 as a result of an undetected dual comms loss on DC111/112. During the intervention entry, it was determined that the two SBC associated with DC111/DC112 failed. It was also realized that two additional SBC were not working in SCPU #3 either. Up to this point, no failures existed. All previous interventions were pre-cautionary (i.e. SBC that were pulled functioned normally onshore). As a result of the DC111/112 SBC failure, an MVI alarm was then made visible on the well HMI to ensure the Subsea CRO could identify a lost comm associated with the SBC.
  - There one working SBC in SPCU 3 is not currently dedicated for use with the existing wells. No other spares are currently available offshore. The card in SPCU 3 could be pulled for an emergency spare. There are 4 cards that are immediately available to Atlantis as part of a DDII IWOCS project in Houston. 6 additional cards have been put on order as operational spares for PQ. The order is currently being re-evaluated (lead time is ~ 8 weeks at $10,000 / card) with 1st delivery at the end of September.
  - An RCFA is in process with FMC that includes BP participation. A BP control engineer (Roy Chan) has been assigned as the lead for BP interest in this effort. The FMC lead in the RCFA is Brian McIntosh. Ray Fleming, BP Subsea TA is also involved. The scope of the RCFA includes collection of environmental and utility data from offshore as well as initiation of cradle to grave traceability on all Atlantis SBC.
  - This SBC issue has been networked with Thunderhorse (Chris Curran, SS Control Lead) and Deepwater Operations (Dave Turner's group). Thunderhorse has a subsea system with very similar design and utilizes same boards as Atlantis. Some of the Thunderhorse SBC could be accessed as spares in an emergency with some configuration changes.
  - Motorola is the manufacturer of the boards, through one of KOS' subcontractors. KOS works out of Norway. FMC Houston must work through Norway for all the technical expertise. Norway, in turn interfaces / manages their sub vendor who procures the cards from Motorola. Motorola participation is extremely key and this

requirement has been communicated very high into the FMC organization.

- Three faulty, Atlantis SBC's arrived in Norway on 8/20 and have been under testing by both Norway and their sub vendor with identical results. The sub vendor is now in contact with Motorola for further investigation.
- An Honeywell onshore test rack is being procured by BP to more accurately simulate the offshore interfaces between the Honeywell supplied SCU and the FMC supplied SPCU. Specifications of the test system will be same as proposed last fall when test system was proposed but not funded by Operations. A complete test kit will be approximately $40,000. Thunderhorse has offered to pay for 1/2 the cost of the system.
- DC113/114 are currently operating with only one functional line as a result of SBC failure. A technician is scheduled to be mobilized 8/27 for trip offshore to replace card and update configuration.
- The DC113/114 SBC failure highlighted a comms detection issue. The lost communications on this card went undetected by the MVI card in the SCU. The MVI alarm posted on the HMI (as a result of DC111/112 intervention) did not detect the failed DC113/114 SBC. This failure to detect lost communication is a non-compliance with the ESD safety logic of the subsea system. An RFA is currently underway to investigate installation of a electronic watchdog to monitor the communication link. The Operations leadership has been advised of this non-compliance. No MMS notification has been made through the Subsea Operations staff.
- FMC has reported that a firmware update is available for the SBC. The firmware update corrects many known issues / bugs. At this time, it is agreed that the firmware is not the likely root cause of the SBC failures seen. However, update to the firmware will eventually be necessary. A Project Execution Plan will be developed to change out the firmware, including all the necessary testing that will need to be conducted prior to change-out. The Honeywell onshore test rack will be utilized for some of the testing.
- An option to utilize the offshore Automation Technicians in the onshore testing (with Honeywell onshore test rack) was proposed and is currently being evaluated with no outcome at this point.
- Until resolution of the SBC issues are complete (as well as other issues), a standing request has been left with the PQ to leave Smart-Tool operational so that valuable diagnostic data is recorded during each event. Furthermore, diagnostic logs are now transmitted daily to onshore staff for review and archiving. A request has also been made for Operations to stand-down on manual resets of any SBC by PQ personnel unless necessary in an emergency. The recommended course to isolate any issue is to open the line breaker on the affected channel until FMC personnel can be called in to intervene.
- The ACE has been successfully used on several same-day call-outs and has eliminated the need to send personnel offshore when SBC board replacement has not been required. With proper training of offshore personnel and available procedures, it has been determined that PQ staff could perform SBC change-outs offshore, and FMC technicians can perform all configuration changes remotely from the ACE. This remediation option has not been put into effect at this time.

- The DC122 Uncommanded Shut-in on 10-Aug - DC122 shut-in at 7:20 am on Aug-10. Honeywell event logs indicated that no commands were sent from the PQ to cause shut-in. The only event coincident with the shut-in was a lost communication that occurred on Line A of DC122. Later, it was confirmed with FMC that the subsea controls design is always fail in a lost comm's / lost power situation (a hydraulic umbilical blow-down is last resort to facilitate shut-in of latter). Shut-in of a value should only occur with a command. Diagnostics later determined that SEM A on DC122 was frequently failing to reply to commands from it's SBC. Smart-tool logs also confirmed that no valve commands were sent to DC122 at 7:20 am. Review of internal status buffers in SCM revealed a CPU RAM warning. This warning, in conjunction with frequent failures on side A, and the current industry warning regarding CPU rams led to a recommendation by FMC to shut-down DC122 side A which is current situation. The ongoing SBC issue is NOT believed to be the cause of this problem. Evaluation for replacement of the SCM is underway.
- DC113 AMV Software Changes - The failure of the DC113 AMV actuator has led to procurement of an external actuator. Control of the external actuator is only practical through changes of software resident on the SBC. The software for the DC113/114 SBC has been modified and successfully tested onshore in the FMC pod lab. An intervention offshore is schedule to begin on Aug-27 (coincident with DC113/114 SBC failure change-out). The DC113 / DC114 wells will be shut-in prior to installation so that control of the wells can be safely test after the software is installed.

From: Cotton, Steven L <Steven.Cotton@bp.com>
Sent: Tuesday, September 2, 2008 8:55 PM
To: Berger, Ron K (Manatee) <bergerrk@bp.com>
Cc: Oza, Nita <ozan@bp.com>; DeJohn, Kenneth P <dejohnkp@bp.com>; Chan, Roy <chan34@bp.com>
Subject: RE: FMC SPCU/SCU Test Simulator

Ron,

The test setup is complete and Honeywell (Henry Sun) has tested it with several wells. He's writing a procedure on how to configure the system for any subsea well.

We borrowed parts from Marlin, Horn Mountain and Atlantis Ops for this system so lets make sure it meets our expectations then move forward with purchasing a dedicated system. We can deliver this to FMC on Thursday if they are available to assist with the setup and tie-in to their system. I'd like Henry to take it there and set it up to be sure everything works properly with the interface to the SBC.

I'd like to move forward with the MOC to enhance the comm failure alarms and to modify the graphics to make it clearly evident when comms are down. We should also discuss the SBC firmware upgrades so we can test it before the new boards are sent offshore.

Thanks,

Steve Cotton

From: Berger, Ron K (Manatee)
Sent:
Tue 9/2/2008 4:48 PM

To: Cotton, Steven L
Subject: FW: FMC
SPCU/SCU Test Simulator

Approval for 25k from thorse if we need
it.

From: size=1>Fleming, Ray H
size=1>Sent: Tuesday, September
02, 2008 12:31 PM
size=1>To: Berger,
Ron K (Manatee)
size=1>Cc: Curran,
Christopher J; Oza, Nita
size=1>Subject: face=Tahoma size=1>FW: FMC SPCU/SCU Test Simulator

Ron,

FYI

Ray

From: size=1>Curran, Christopher J
size=1>Sent: Monday, September
01, 2008 11:57 AM
size=1>To: Fleming,
Ray H
size=1>Subject: face=Tahoma size=1>RE: FMC SPCU/SCU Test Simulator

Ray,

Just to be sure, I have reviewed this
with Karen so she knew what we were planning and this is approved.

Regardsface="Times New Roman">
face=Arial>Christopher Curranface=Arial>
Subsea Controls Engineer
face=Arial>BP Exploration and Production
DWP Thunder Horse

11700 Katy
Freeway, Suite 150, Room 7-22
Houston, Tx 77079
USA
Office: +1 281 249
7563
Mobile:
Email: Christopher.Curran@bp.comface="Times New Roman">

From: size=1>Fleming, Ray H
size=1>Sent: Thursday, August 14, 2008 4:55 PM
size=1>To: Curran, Christopher J
size=1>Subject: face=Tahoma size=1>FMC SPCU/SCU Test Simulator

Christopher,

As part of the Atlantis SBC failure investigation, the Atlantis tem are considering building a test simulator to be able to test the communications interface between the FMC SPCU and the Honeywell SCU. This will provide a mechanism to test individual SBC and MVI boards now and in the future. It will be an invaluable tool when it comes to trouble shooting this communications interface or upgrading the configuration or firmware in either the FMC SBC or Honeywell MVI boards. As this simulator can be used to test the Thunder Horse system as well as Atlantis, I see this as an opportunity to jointly deliver and have access to. The cost of the unit is estimated to be $50K. Are you will to collaborate with Atlantis and to begin with, share the cost of this development.

Regards

Ray

From: Berger, Ron K (Manatee) <ron.berger@bp.com>
Sent: Thursday, September 4, 2008 1:45 PM
To: Fleming, Ray H <Ray.Fleming@BP.com>; Chan, Roy <Roy.Chan@BP.com>; Oza, Nita <Nita.Oza@BP.com>; Young, Brian J <Brian.J.Young@BP.com>; Broman, William H (HOU) <bromanwh@bp.com>
Subject: RE: This is my contact

my thoughts:

- i can't see us independently going to emerson. we're not the designers. fmc needs to be involved. it seems to me fmc needs to make the call to use emerson or not.
- i'm not sure what we would get with an emerson rca. $7500 doesn't buy much so what would they be doing to actually make it worthwhile?
- we only have a limited amount of cards and thus i don't realistically see us working this in parallel.
- on the flip side, (without understanding potential warranty issues) access to money should not stop us as this is a systemic IM related issue. so if fmc sees value, but cost is impeding the progress i wonder if we should just move that way and sort out the $ w fmc later.

From: Fleming, Ray H
Sent: Thursday, September 04, 2008 8:03 AM
To: Chan, Roy; Oza, Nita; Berger, Ron K (Manatee); Young, Brian J
Subject: RE: This is my contact

Roy,

Given the situation with FMC I would recommend taking with Emerson and getting more details on what a board RCA entails, how long it takes and where it would be performed. It may also be good to demonstrate to FMC that we are very unhappy with the progress and management of this issue and that our resulting lack of confidence is making us take a more direct, hand-on, approach with this RCA. If you want me to join in a joint call to Henry let me know, but please proceed with this approach.

Regards

Ray

From: Chan, Roy
Sent: Wednesday, September 03, 2008 9:38 PM
To: Oza, Nita; Berger, Ron K (Manatee); Fleming, Ray H; Young, Brian J
Subject: FW: This is my contact

Just to let you know there is another option to find out the root cause. Emerson Network has acquired Motorola's Embedded Communications Computing group. I haven't talked with Emerson in details on how they will test the boards.

Any thoughts?

Roy
Office: +1 281 366-1131

From: Henry.Chun@Emerson.com [mailto:Henry.Chun@Emerson.com]
Sent: Wednesday, September 03, 2008 3:49 PM
To: Chan, Roy

Subject: RE: This is my contact

Hi Roy,

Did you ever determine the model number of the VME boards that were failing?

Pricing for a root cause analysis is $7500/board. I'll try to pass along some more details on this service as I get them.

Regards,
Henry

Henry Chun
Account Manager
South Central Plains

Emerson Network Power - Embedded Computing
(w) +1 972.587.1861

henry.chun@emerson.com

Motorola's Embedded Communications Computing group is now a business of Emerson Network Power
www.emersonnetworkpower.com/embeddedcomputing

Please consider the environment before printing this email.

From: Chan, Roy [mailto:Roy.Chan@bp.com]
Sent: Friday, August 29, 2008 11:16 AM
To: Chun, Henry [NETPWR/EMBED/TX]
Subject: This is my contact

Roy Chan
Subsea Controls Engineer
BP GoM Development
Office: +1 281 366-1131

From: Gipson, Les <Les.Gipson@bp.com>
Sent: Friday, September 5, 2008 11:40 PM
To: Oza, Nita <Nita.Oza@bp.com>
Subject: RE: Subsea Controls Comms check

Nita,

Thanks for the update and congratulations on the success. Wanda mentioned something else regarding DC-122, but I'm not quite sure what it was. I think it was something about leaving the breaker open on one of the cards and that I might want to add it to our Hurricane Evacuation check list. Am I loosing my mind or do you need me to do something. Let me know.

Best regards,

Les Gipson

Production Team Leader
bp GoM Atlantis PQ
Office: (337) 735-2203

From: Oza, Nita
Sent: Friday, September 05, 2008 8:21 PM
To: Gipson, Les; Harrison, Rickey; Lowe, Jon D; Broman, William H(HOU); Berger, Ron K (Manatee); Young, Brian J; Angel, Keith F; Huebel, Ross ; Humphrey, Kathryn
Cc: Todd, Simon P; Chan, Roy
Subject: Subsea Controls Comms check

All,

I would just like to update you all that we have carried out the comms check on the subsea controls systems post Gustav, this evening. After the SPCU was started up this afternoon, all the SEM A of all eight wells are not working. We were able to get all SEM A back to normal operating mode this evening. The root cause of the failure of the SEM A to fall out was the fact that it SPCU comms had timed out.

We will be monitoring the subsea comms from the SMART tool and get updates from the PQ every morning.

My thanks to Brian Young , Aneet Nehra, Wanda Byrd and Josh Little for completing this work successfully.

kind regards

Nita Oza
Atlantis Operations
Onshore Subsea Team Lead
Office: 281 366 3901

From: Chan, Roy <Roy.Chan@bp.com>
Sent: Monday, September 8, 2008 12:48 PM
To: Fleming, Ray H <Ray.Fleming@bp.com>; Oza, Nita <Nita.Oza@bp.com>; Young, Brian J <Brian.J.Young@bp.com>
Subject: FW: This is my contact
Attach: RCA_Service_Overview_050608.pdf

The attached is what Emerson provides RCA service.

Roy
Office: +1 281 366-1131

From: Henry.Chun@Emerson.com [mailto:Henry.Chun@Emerson.com]
Sent: Thursday, September 04, 2008 10:35 AM
To: Chan, Roy
Subject: RE: This is my contact

Roy,

Here is some more information on the Root Cause Analysis service from Emerson.

Let me know if there are questions.

Regards,
Henry

From: Chun, Henry [NETPWR/EMBED/TX]
Sent: Wednesday, September 03, 2008 3:49 PM
To: Chan, Roy
Subject: RE: This is my contact

Hi Roy,

Did you ever determine the model number of the VME boards that were failing?

Pricing for a root cause analysis is $7500/board. I'll try to pass along some more details on this service as I get them.

Regards,
Henry

Henry Chun
Account Manager
South Central Plains

Emerson Network Power - Embedded Computing
(w) +1 972.587.1861

henry.chun@emerson.com

Motorola's Embedded Communications Computing group is now a business of Emerson Network Power
www.emersonnetworkpower.com/embeddedcomputing

Please consider the environment before printing this email.

From: Chan, Roy [mailto:Roy.Chan@bp.com]
Sent: Friday, August 29, 2008 11:16 AM
To: Chun, Henry [NETPWR/EMBED/TX]
Subject: This is my contact

Roy Chan
Subsea Controls Engineer
BP GoM Development
Office: +1 281 366-1131

Service Overview
Root Cause Analysis
Revised May, 2008

The Root Cause Analysis service provides customers with in-depth evaluation of a product failure along with an interim action plan to prevent future occurrences. This service is recommended for customers that require additional failure analysis that falls outside Emerson's normal quality initiatives.

Emerson Network Power, Embedded Computing conforms to the Telecommunications Industry TL9000 processes used to monitor product returns and failures by customer, product variant, defect type and material type. If one of these four return types exceeds the pre-determined TL9000 thresholds, Embedded Computing will automatically initiate a corrective action procedure to determine the cause and effect of the non-conforming product and/or process and bring it back into compliance.

In the event that a customer requires an analysis not covered under the TL9000 metrics, Embedded Computing's Root Cause Analysis (RCA) Service will provide an in-depth engineering level evaluation of products suspected of failing or deviating from the published specification. Root Cause Analysis helps determine not only what and how a specific event occurred but also why it happened and the steps required preventing future occurrences.

The Embedded Computing Root Cause Analysis process is modeled after the industry standard 8D problem solving methodology, principles, and format. Root Cause Analysis will pinpoint the exact nature of the failure, identify the failing element and suggest remedial actions. If the problem is due to a manufacturing process or supplier, a corrective action process will be implemented to bring any non-conforming process or components back into compliance. In addition, a report will be generated that fully documents the findings of the root cause analysis.

There are three major milestones in the RCA process:

1. Emergency Response and Interim Containment Action (RCAICA)
2. Permanent Corrective Action (PCA)
3. Systemic Preventive Action (SPA)

The majority of RCA activities will use Step 1 only. Steps 2 and 3 will be taken only in the event that manufacturing processes need to be changed or if specific supplier corrective action needs to be initiated.

RCA Process Milestone 1

Table 1 below contains the interactions between the Customer and Emerson to complete RCA Milestone 1.

Table 1 – RCA Milestone 1 Actions

Step	Customer Action	Emerson Action	Time Frame
1	Customer requests RCA Service from Embedded Computing contact center.	Emerson provides RMA number for tracking purposes	TBD
2	Customer ships board to Emerson for RCA service.	Emerson convenes the appropriate group of internal/external resources with the right expertise to evaluate and resolve the issue.	TBD
3	Customer provides additional information (if required) regarding configuration, environment, software, etc.	Conduct appropriate evaluations to identify the need for 8D RCA activities	TBD
4	None	Define and identify the problem in quantifiable terms.	TBD
5	None	Isolate & verify the place in the process where the effect of root cause can be detected and/or contained.	TBD
6	None	Define, verify, and implement Interim Corrective Actions (ICA) to isolate the effects of the identified problem from any internal and/or external customer until Permanent Corrective Actions (PCA) can be implemented.	TBD
7	Consultation with Customer Subject Matter Experts if required	Initiate discussions with Customer if Steps 2 or 3 are required as part of this RCA event.	TBD
8	None	Provide customer with Failure Analysis Report. Example report is in Appendix 1.	30 Business Days
9	None	Product(s) returned to Customer	TBD

Step 2 - Permanent Corrective Action (PCA)

Under most circumstances, customers will not be involved in Step 2. Emerson will only engage with Customer in Step 2 of the RCA process if it is determined that the problem under analysis is due to a product or process related to a specific Customer only. Emerson will discuss additional effort and pricing, if required.

Step 3 - Systemic Preventive Action (SPA)

Under most circumstances, customers will not be involved in Step 3. Emerson will only engage with Customer in Step 3 of the RCA process if it is determined that the problem under analysis is due to a product or process related to a specific Customer only. Emerson will discuss additional effort and pricing, if required.

Root Cause Analysis Services Pricing

Table 2 – RCA Services Pricing		
Ordering Number	**Description**	**Pricing**
RCA-1-ERAICA	Root Cause Analysis Emergency Response & Containment	$7500 (USD) Per RCA Event [1]
RCA-2-PCA	RCA Permanent Corrective Action	TBD [2]
RCA-3-SPA	RCA Systemic Prevention Corrective Action	TBD [2]

Root Cause Analysis Pricing Notes

Note 1: An RCA event is defined as a single product or FRU (Field Replaceable Unit) sent in for analysis. This pricing scenario applies to multiple products or FRU's sent in to Emerson for RCA service. For example, if RCA service is requested on two PrPMC275-001 modules then each module would be billed at $7,500 each, or $15,000 for both.

Note 2: If RCA Step 2 and/or 3 are required, Emerson will provide a separate quote and Corrective Action Report.

Appendix 1 – Sample Failure Analysis Reports

Failure Analysis Report
RMA: XXXXX
Customer: Initech
Product: CPX8216TCHAS
February 26, 2007

Summary

Serial number: *LC399*
Emerson Part Number: *01-W2059E02D*
Marketing Name: *CPX8216TCHAS*

Reported Problem: *"Complete failure experienced after reboot of system". After reboot of the MSC side (right side) of the chassis the CPU would not recognize the hard drive. System would not come up. While checking cabling, BSC side (left) began experiencing PCI buss errors".*

Observations: The CPX8216 chassis was received minus hard drive units. Chassis contained 2 system controller cards CPV5370's along with 2 bridge cards (01-W3739F01C) and 2 transition modules. Peripherals included 3 DC power supplies and 2 DVD CD drives and 2 floppy drives and appropriate cabling.

During Initial power up sequence both controllers power on and booted their on-board compact flash devices which are the primary boot devices set in the BIOS configuration. Only Domain "A" or BSC side (left) was acquired and powered on during boot up sequence, this applies power to slots 1-6. The MSC side or (right) was not acquired and did not power on slots 11-16 at power up. If both domains need to be acquired this is accomplished in the BIOS setup utility under Advanced- PCI configuration-HA configuration. The default BIOS setting on the controller cards is to acquire both domains at power up. The controller card in slot 7 (BSC) booted customer software from on-board compact flash card resulting in screen message:
"Boot Partition 1234?2
"Hit esc for altboot....."

The controller in slot 9 (MSC) recognizing its on-board compact flash card during boot up sequence and booted the software loaded on it resulting in an on screen message:

"Remove disks or other media
Press any key to restart"

Unsure whether customer is loading software on compact flash cards and what type of software is intended to be accessed but it appears that both controllers accessed the loaded files from compact flash cards and booted what was loaded on cards.
Upon examination of the software loaded on the compact flash cards found 2 different files. See attached pages 3-5.

Controller in slot 9, MSC side, had defective SCSI pmc card 01-W2761E01B SN# 96903 which prevented hard drive access. A new SCSI pmc card was installed on controller and hard drive access was restored.

Recommendations: *The faulty SCSI pmc card SN# 96903 was replaced and the system peripherals were tested along with the individual slots. The failed SCSI pmc card was the only defective item found with this system. The SCSI pmc card is a third party vendor item. It is manufactured by Technobox, Inc. Card can be forwarded to vendor for failure analysis if requested by customer. Since this appears to be an isolated incident with this pmc card and no failure trends have been recorded no failure analysis from Technobox is recommended.*

This file was loaded on compact flash card from controller in slot 9 or MSC side.

```
PPC1-Bug>mds 4000
00004000  93C08ED0 BC007CFB 5007501F FCBE1B7C  3.....|.P.P...|
00004010  BF1B0650 57B9E501 F3A4CBBD BE07B104  ...PW...........
00004020  386E007C 09751383 C510E2F4 CD188BF5  8n.|.u..........
00004030  83C61049 7419382C 74F6A0B5 07B4078B  ...It.8,t.......
00004040  F0AC3C00 74FCBB07 00B40ECD 10EBF288  ..<.t...........
00004050  4E10E846 00732AFE 4610807E 040B740B  N..F.s*.F.~..t.
00004060  807E040C 7405A0B6 0775D280 46020683  .~..t....u..F...
00004070  46080683 560A00E8 21007305 A0B607EB  F...V...!.s.....
00004080  BC813EFE 7D55AA74 0B807E10 0074C8A0  ..>.}U.t..~..t..
00004090  B707EBA9 8BFC1E57 8BF5CBBF 05008A56  .......W.......V
000040A0  00B408CD 1372238A C1243F98 8ADE8AFC  .....r#..$?.....
000040B0  43F7E38B D186D6B1 D6D2EE42 F7E23956  C..........B..9V
000040C0  0A772372 05394608 731CB801 02BB007C  .w#r.9F.s......|
000040D0  8B4E028B 5600CD13 73514F74 4E32E48A  .N..V...sQOtN2..
000040E0  5600CD13 EBE48A56 0060BBAA 55B441CD  V......V.`..U.A.
000040F0  13723681 FB55AA75 30F6C101 742B6160  .r6..U.u0...t+a`
00004100  6A006A00 FF760AFF 76086A00 68007C6A  j.j..v..v.j.h.|j
00004110  016A10B4 428BF4CD 13616173 0E4F740B  .j..B....aas.Ot.
00004120  32E48A56 00CD13EB D661F9C3 496E7661  2..V.....a..Inva
00004130  6C696420 70617274 6974696F 6E207461  lid partition ta
00004140  626C6500 4572726F 72206C6F 6164696E  ble.Error loadin
00004150  67206F70 65726174 696E6720 73797374  g operating syst
00004160  656D004D 69737369 6E672066 70657261  em.Missing opera
00004170  74696E67 20737973 74656D00 00000000  ting system.....
00004180  00000000 00000000 00000000 00000000  ................
00004190  00000000 00000000 00000000 00000000  ................
000041A0  00000000 00000000 00000000 00000000  ................
000041B0  00000000 002C4463 2C034F0D 00008001  .....,Dc,.O.....
000041C0  01000060F E0CF2000 0000E09F 07000000  ..... ..........
000041D0  00000000 00000000 00000000 00000000  ................
000041E0  00000000 00000000 00000000 00000000  ................
000041F0  00000000 00000000 00000000 000055AA  ..............U.
PPC1-Bug>mds 8000
00008000  EB3C904D 53444F53 352E3000 02080800  .<.MSDOS5.0.....
00008010  02000200 00F8F400 20001000 20000000  ........ ... ...
00008020  E09F0700 800029B6 E92F884E 4F204E41  .....)../.NO NA
00008030  4D452020 20204641 54313620 202033C9  ME    FAT16   3.
00008040  8ED1BCF0 7B8ED9B8 0020BEC0 FCBD007C  ....{.... .....|
00008050  384E247D 248BC199 E83C0172 1C83EB3A  8N$}$....<.r...:
```

```
00008060  66A11C7C 26663B07 268A57EC 750680CA  f..|&f;.&.W.u...
00008070  02885602 80C31073 EB33C98A 461098F7  ..V....s.3..F...
00008080  66160346 1C13561E 03460E13 D18B7611  f..F..V..F....v.
00008090  608946FC 8956FEB8 2000F7E6 8B5E0B03  `.F..V.. ....^..
000080A0  C348F7F3 0146FC11 4EFE61BF 0000E8E6  .H...F..N.a.....
000080B0  00723926 382D7417 60B10BBE A17DF3A6  .r9&8-t.`....}..
000080C0  61743A2E 740983C7 203BFB72 E6EBDCA0  at2Nt... ;.r....
000080D0  FB7DB47D 8BF0AC98 40740C48 7413B40E  .}.}....@t.Ht...
000080E0  BB0700CD 10EBEFA0 FD7DEBE6 A0FC7DEB  ..........}....}.
000080F0  E1CD16CD 19268B55 1A52B001 BB0000E8  .....&.U.R......
00008100  3B0072E8 5BBA5624 BE0B7C8B FCC746F0  ;.r.[.V$..|...F.
00008110  3D7DC746 F4297D8C D9894EF2 894EF6C6  =}.F.)}...N..N..
00008120  06967DCB EA030000 200FB6C8 668B46F8  ..}..... ...f.F.
00008130  6603461C 668BD066 C1EA10EB 5E0FB6C8  f.F.f..f....^...
00008140  4A4A8A46 0D32E4F7 E20346FC 1356FEEB  JJ.F.2....F..V..
00008150  4A525006 536A016A 10918B46 18969233  JRP.Sj.j...F...3
00008160  D2F7F691 F7F64287 CAF7761A 8AF28AE8  ......B...v.....
00008170  C0CC020A CCB80102 807E020E 7504B442  .........~....u..B
00008180  8BF48A56 24CD1361 61720B40 75014203  ...V$..aar.@u.B.
00008190  5E0B4975 06F8C341 BB000060 666A00EB  ^.Iu...A...`fj..
000081A0  B04E544C 44522020 20202020 0D0A5265  .NTLDR      ..Re
000081B0  6D6F7665 20646973 6B732066 72206F74  move disks or ot
000081C0  68657220 6D656469 612EFF0D 0A446973  her media....Dis
000081D0  6B206572 726F72FF 0D0A5072 65737320  k error...Press
000081E0  616E7920 6B657920 746F2072 65737461  any key to resta
000081F0  72740D0A 00000000 000000AC CBD855AA  rt..........U.
```

This file was loaded on compact flash card from controller in slot 7.

```
PPC1-Bug>mds 4000
00004000  EB00FA31 C08ED0BC 007C89E6 8EC08ED8  ...1.....|......
00004010  FBFCBF00 06B90001 F3A5B800 0050B823  .............P.#
00004020  0650CB52 BEBE07BF 4107B331 30FF803C  .P.R....A..10..<
00004030  80750288 DF807C04 00740688 1D81C702  .u....|..t......
00004040  0081C610 00FEC3B0 FB3575E2 80FF0075  .........5u....u
00004050  02CD18C6 053F887D 02C64503 08C64504  .....?.}..E...E.
00004060  00BE3207 E89100B9 4800E401 5551CD16  ..2.....H...UQ..
00004070  595D7518 06BA4000 8EC2268B 166C0026  Y]u...@...&..l.&
00004080  3B166C00 74F907E2 E1E91500 B400CD16  ;.l.t...........
00004090  3C0D740D 3C3172D2 3C3477CE 88C7E863  <.t.<1r.<4w....c
000040A0  00B00DE8 5E00B00A E8590088 F82C31B4  ....^....Y...,1.
000040B0  00D1E0D1 E0D1E0D1 E0BDBE07 01C589EE  ................
000040C0  8B14B280 8B4C02BB 007CB801 02CD1373  .....L...|.....s
000040D0  06BE0E07 E91B00BE 19073E81 3EFE7D55  ..........>.>.}U
000040E0  AA7403E9 0C005A89 EEB80000 50B8007C  .t....Z.....P..|
000040F0  50CBE803 00E9FDFF AC08C074 06E80400  P..........t....
00004100  E9F5FFC3 53BB0700 B40ECD10 5BC34469  ....S.......[.Di
00004110  736B2045 72726F72 004D6973 73696E67  sk Error Missing
00004120  204F7065 72617469 6E672053 79737465   Operating Syste
00004130  6D00426F 6F742050 61727469 74696F6E  m.Boot Partition
00004140  20202020 20202020 20202020 00000000                    ....
00004150  00000000 00000000 00000000 00000000  ................
00004160  00000000 00000000 00000000 00000000  ................
00004170  00000000 00000000 00000000 00000000  ................
00004180  00000000 00000000 00000000 00000000  ................
00004190  00000000 00000000 00000000 00000000  ................
000041A0  00000000 00000000 00000000 00000000  ................
000041B0  00000000 00000000 00000000 00000000  ................
000041C0  C1B14E0F E0D30062 07000046 00008000  ..N....b...F....
```

```
000041D0  411A4D0F E0B80034 0200002E 05000000  A.M...4.........
000041E0  01F5500F 601900EA 0100004A 00000001  ..P.`.....J.....
000041F0  01004F0F 20F42000 0000E0E9 010055AA  ..O. ..... ...U.
PPC1-Bug>mds 8000
00008000  EE2590DA 20000000 00000000 10000002  .%.. ..........
00008010  20804869 74204573 6320666F 72202E61  .Hit Esc for .a
00008020  6C74626F 6F7400E8 00005E81 EE2A000E  ltboot....^.*...
00008030  1FB86000 BEC031FF B90001F3 A506B843  ..`...1........C
00008040  0050CB0E 1F0E17BC 0008FBBE 1200AC08  .P..............
00008050  C07405E8 7101EBF6 BF000631 C0B91800  .t..q......1....
00008060  F3ABB802 0099BF01 0031DBBD 0008E8C8  .........1......
00008070  00B92400 B80001CD 1675121E 31C08ED8  ..$.....u.!.1...
00008080  8B166C04 3B166C04 74FA1FE2 E7BE8002  ..l.;.l.t.......
00008090  3C1B7504 81C64000 8B4C30BD 001031DB  <.u...@..L0...1.
000080A0  8B441C8B 541EA3D0 04891602 04C60608  .D..T...........
000080B0  040181C6 1400EB23 81C6D800 FE0E0804  .......#........
000080C0  7519A100 048B1602 045553BD 000A31DB  u.........US...1.
000080D0  BF0100E8 63005B5D BE10048B 048B5402  ....c.[].....T.
000080E0  8B7C04E8 5300B1F8 81D20000 297C04C1  .|..S.......)|..
000080F0  E709D1FD 81D30000 817C0400 0075E1E2  ..........|...u.
00008100  B7BB0002 66BAEB7E FF00B900 20663B17  ....f..~.... f;.
00008110  740A81C3 0400E2F5 B053EB18 8B472001  t........S...G .
00008120  D8050006 894728C7 472A1100 B8000150  ....G(.G*......P
00008130  31C050CB E89000EB FE565051 52532D01  1.P.....VPQRS-.
00008140  0081DA00 00030604 00131606 00F7360E  ..............6.
00008150  0088C588 E1C0C902 89D099F6 36100088  ............6...
00008160  C608E1FE C1BF0100 89F8BB00 088A1611  ................
00008170  00B402CD 13B04472 BBF7C5FF 3F7505B0  ......Dr....?u..
00008180  2EE84300 5BBE0006 C7441CFF FFC64415  .C.[....D.....D.
00008190  93C74412 000EC644 1400C744 18FFFFC6  ..D....D...D....
000081A0  441D9389 6C1A88BC 1C8044IC 1189F9C1  D...l.....D.....
000081B0  E108B487 CD1580FB 01770788 5C1CB487  .........w..\...
000081C0  CD155A59 585EC353 50BB0700 B40ECD10  ..ZYX^.SP.......
000081D0  585BC300 00000000 00000000 00000000  X[..............
000081E0  00000000 00000000 00000000 00000000  ................
000081F0  00000000 00000000 00000000 000055AA  ..............U.

PPC1-Bug>
00008200  2F000000 00000000 00000000 00000000  /...............
00008210  00100000 22000000 08000000 00000000  ....".....".....
00008220  81967945 81967945 81967945 81967945  ..yE..yE..yE..yE
00008230  0100FD41 00000000 03000000 00000021  ...A...........!
00008240  00000000 00000000 00000000 00000000  ................
00008250  00200000 2A000000 10000000 00000000  . ..*...........
00008260  81967945 81967945 81967945 81967945  ..yE..yE..yE..yE
00008270  01002481 00000000 01000000 00000011  ..$.............
00008280  00000000 00000000 00000000 00000000  ................
00008290  00000000 00000000 00000000 00000000  ................
000082A0  81967945 81967945 81967945 81967945  ..yE..yE..yE..yE
000082B0  00008081 00000000 01000000 00000011  ................
000082C0  00000000 00000000 00000000 00000000  ................
```

Failure Analysis Report
RMA: XXXXX
Customer: Data General
Product: microNOVA

September 6, 2006

Summary

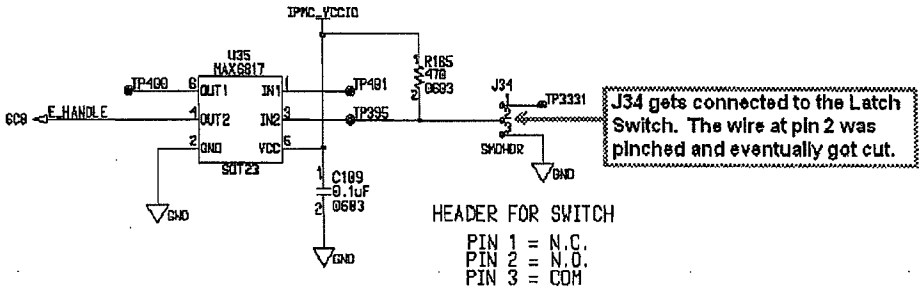
Serial number: *7475563*
Emerson Part Number: *01-W3897F01G*
Marketing Name: *ATCA-S110 Blade*

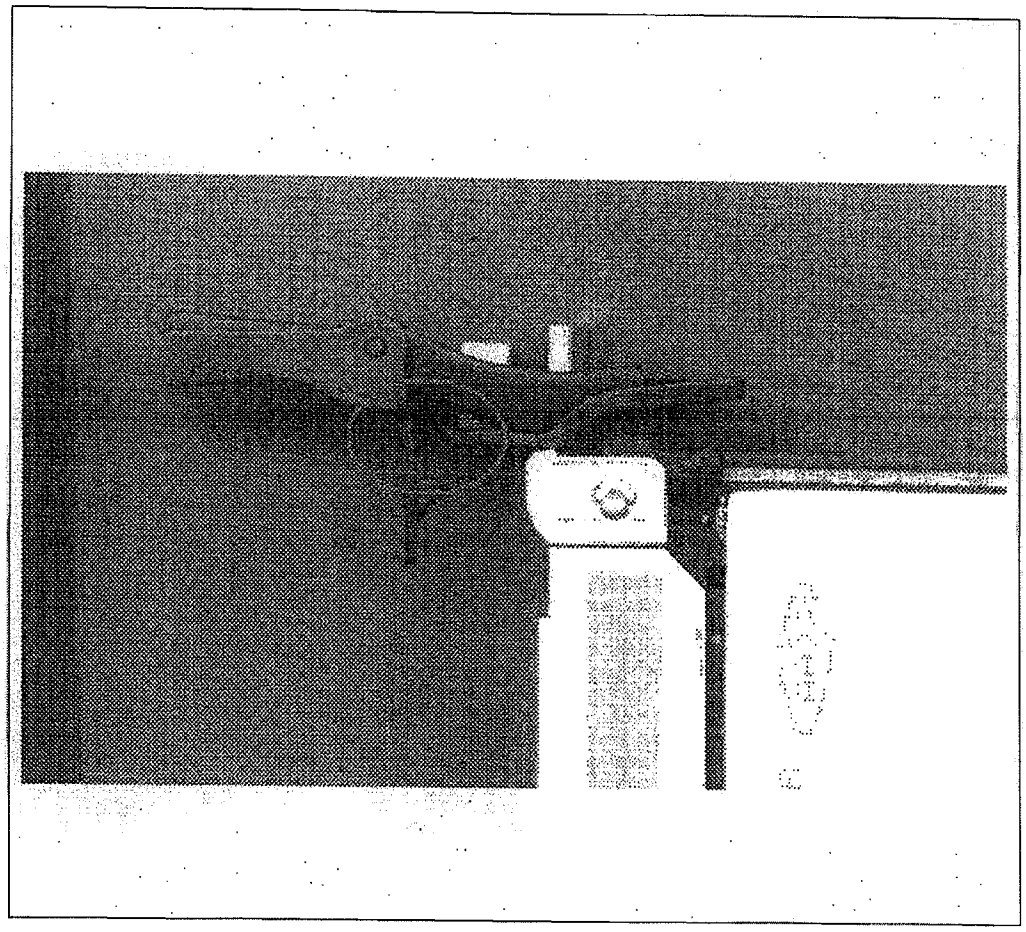
Reported Problem: *Blade unlocked disabled failed.*

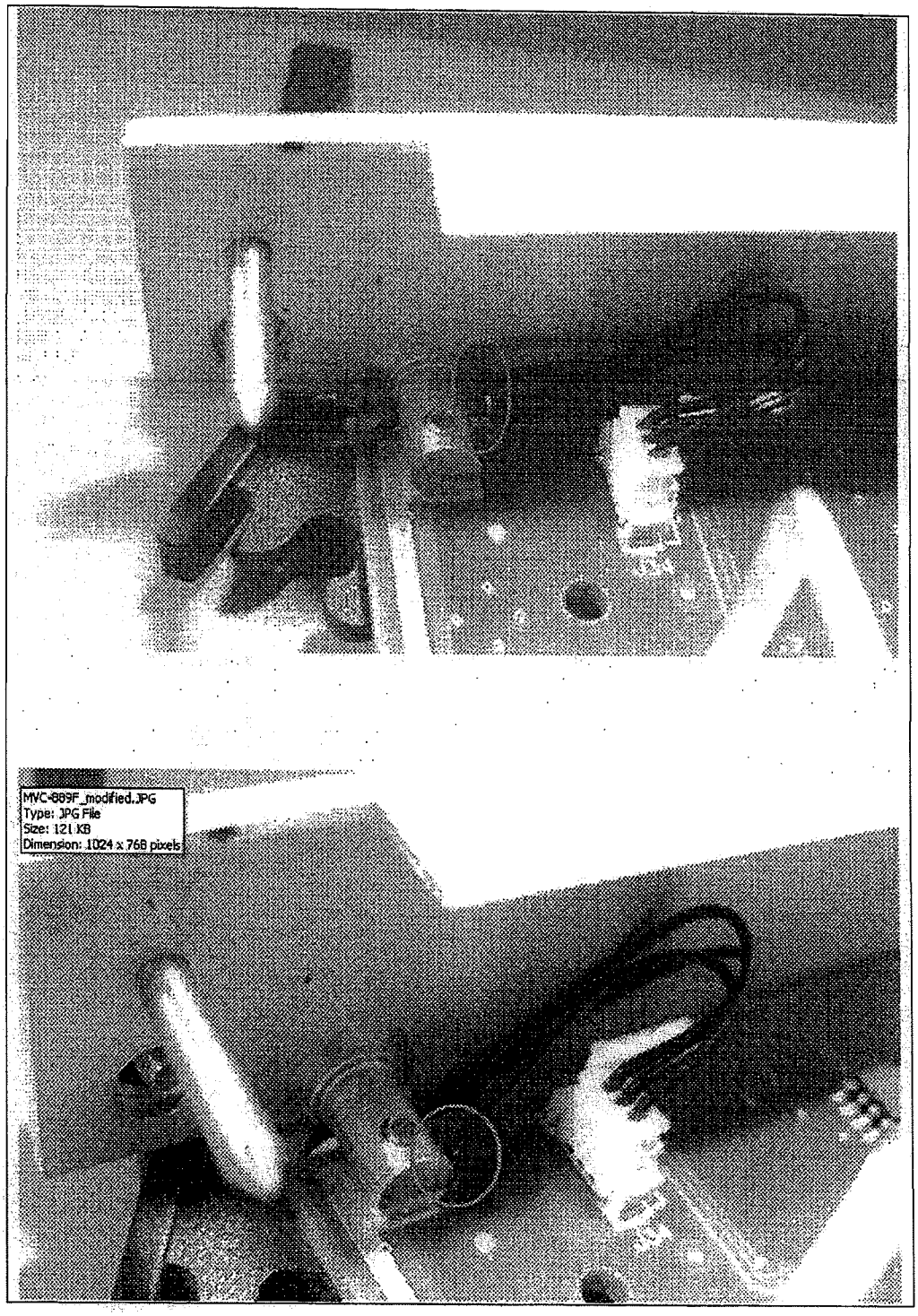
Findings: *Pictures are attached in this document. An initial finding on this S110 Blade was a broken lower latch. This is the same latch that enables the Hot Swap Switch. The way that the latch was broken would not allow it to hold the switch closed so to get this blade to power up, the latch would have to be held manually to engage the switch. After inserting the blade into the chassis, the blue hot swap LED came on solid as it should, but found that holding the latch in to engage the switch still did not let the blade power up. Further analysis found that there was a cut/broken wire between the switch and the connector that goes to J34 pin 2. As seen on the attached schematic of this circuit, this pin is normally pulled high, but once the latch gets closed, this pin is pulled low and this sends the signal to U35 to enable the power supplies, thus turning the blade on. If the wire got cut before installation, it would not allow the pin to be pulled low, thus it would not send the signal to turn on the power supplies. If this board was up and running and the wire was initially making connection, the blade would have powered up. Then, once the wire finally broke it would have sent the signal to power supplies to shut down, thus turning the blade off.*

Conclusion: *The manufacturing Final Assembly Test-FAT tests the position of the latch and verifies that software can read that the latch is open and closed. The Test Log for this blade shows that these and all of the tests passed on this blade. Initially this wire was making connection. The pinched condition must have happened during the manufacturing process of putting on the front panel and the latches. The pinching of the wires can happen if care is not taken to verify that the wires are not exposed when the latch spacer mechanism is screwed down.*

Recommendations: *The Repair Center has not seen any trends of this type of failure. This information will be passed on to Quality Engineering here at Embedded Computing so that manufacturing can be made aware of this failure and how it can escape.*






MVC-889F_modified.JPG
Type: JPG File
Size: 121 KB
Dimension: 1024 x 768 pixels

Steps taken during Root Cause Analysis (RCA)

When troubleshooting Emerson ECC product, we practice 8D Problem Solving methods to isolate down to the root cause of the failure. The root of a failure can be attributed to but not limited to one of the following: a bad component, a process related problem during manufacturing, a software/firmware, a design issue or environmental conditions. During the failure analysis, the UUT (Unit Under Test) will be troubleshot down to component level. If a failing component is identified during our testing, we isolate the failure down to the lowest possible level, ex: down to the pin or internal register of a device. We also document all of our failure information so that we can pass this on to the component supplier. Any failing device will be carefully removed and sent back to supplier. The results from the supplier determine whether we have a true component issue, or if it a software/firmware issue. It is also possible that there can be a component issue and our tests are not catching it. If so, the data we find would be passed on to our Quality Group and they will drive the issue to our Test Engineering Group in order to enhance our test coverage. If we find that the failure is related to an issue (ex: solderability, part placement, etc) due to our manufacturing process, this information will be passed on to our Quality Group as well and they would drive the issue to our Manufacturing Process Engineering Group. If the failure is determined to be caused by a design issue the information is passed to the Quality Group who in turn drives the issue with the Design Engineering Team.

Below are the high level steps taken during RCA. Each of the steps mentioned below depends on the results of the previous step:

- Receive product and verify RMA documentation is correct and that it belongs with UUT. Verify there is useful information in the Reported Problem field captured in the RMA. If any failures are found, we will try to correlate with the reported problem.
- Perform visual inspection on the UUT before installing into the test chassis.
- Apply power to UUT to see if UUT will boot to PPC Bug prompt (Emerson Firmware).
    - If board boots to customer firmware, try to check if board will boot to alternate flash bank.
    - If board does not boot, basic troubleshooting begins with checking all vital voltages & clocks, etc...
    - If board still does not boot, install RiscWatch Header for access to Processor Debug port and use Emulator to troubleshoot to component level. An Emulator gives us access to all of the functional blocks that are on the UUT.
- Boot the UUT to PPC Bug prompt. Verify all programmed devices are still programmed correctly, and then run ST (Self Test). The ST exercises the basic functionality of the functional blocks that are on the UUT.
- If UUT passes ST screening, we will then run the FAT (Final Assembly Test). The FAT is also used in our manufacturing process and exercises all of the functional blocks that are on the UUT and all of I/O above and beyond what the ST exercises.
- If UUT passes FAT screening we will contact customer to get more pertinent information related to failing environment.
- If UUT is still passing all tests, we will run these same tests in our ALT (Accelerated Life Test) chamber. This will allow us to temperature cycle the UUT. Voltage margining, thermal shock and vibration is also available in our ALT chambers.
- If board is still passing all tests, we will contact customer to find out how we can reproduce the customers environment. This sometimes involves getting a chassis and any necessary software from the customer to simulate their environment. This may determine whether our test coverage needs to be enhanced or the customer's application of the product is outside the bounds of the design parameters.

From: Berger, Ron K (Manatee) <ron.berger@bp.com>
Sent: Monday, September 8, 2008 7:19 AM
To: Oza, Nita <Nita.Oza@BP.com>; Byrd, Wanda J <Wanda.Byrd@BP.com>; Young, Brian J <Brian.J.Young@BP.com>
Cc: Taylor, Elton Z <Elton.Taylor@BP.com>
Subject: RE: Subsea Alarms

Is the line breaker still open on side A? We should not be using the A side as we believe at this time that we have faulty cpu ram in the sem. The line breaker needs to be open to ensure we don't power up that side.

-----Original Message-----
From: Oza, Nita
Sent: Saturday, September 06, 2008 8:41 PM
To: Byrd, Wanda J; Young, Brian J; Berger, Ron K (Manatee)
Cc: Taylor, Elton Z
Subject: Re: Subsea Alarms

I would suggest to turn off the alarms for the night.

I will call in in the morning to advise further to manage these alarms.

Nita

Sent using BlackBerry

----- Original Message -----
From: Byrd, Wanda J
To: Oza, Nita; Young, Brian J; Berger, Ron K (Manatee)
Cc: Taylor, Elton Z
Sent: Sun Sep 07 00:42:23 2008
Subject: Subsea Alarms

We keep getting continuous alarms on DC-122 and DC-143 Intrusive Sand Detection alarms on the Production jumpers. It is difficult to monitor the alarm summary at the rate the alarms are being received. Will it be acceptable to have the alarms turned off for the time being?

Thanks

Wanda Byrd
Atlantis Subsea Operations
337-735-2223

From: Cotton, Steven L
Sent: Tuesday, September 09, 2008 3:26:35 PM
To: Oza, Nita; Berger, Ron K (Manatee); Chan, Roy
CC: Sun, Henry H (HONEYWELL IND. AUTO. and CNTR); DeJohn, Kenneth P
Subject: Atlantis Subsea Test Rack and Comms

Nita,

We setup our test system at FMC and tested the interface to their TPU. We had to work through a small issue with our new Prosoft MVI card configuration but everything seems to be functioning properly now. We would like to move forward with developing the comms interface improvements but we'll need some minimal support from FMC. They have this system setup in a test lab that they use for other purposes so we need to meet with them to see what arrangements we can make so that we don't interfere with their other activities. The system may need to be moved to a more suitable location at their office if we plan to have multiple personnel working on the system. We also discussed that this would be a good opportunity for training of the offshore automation specialists so there will be 1-2 of them for a day or two.

Can you discuss this with FMC to see if we will have access to the room and some support from one of their engineers. The support from FMC should be minimal but we just need to schedule it with them. I'm drafting a document to outline what we propose to do but I won't have it completed until later this week.

Here's the short version:
1. Establish a watchdog timer to provide positive communication status.
2. Modify and test the logic to add the MVI comms failure to the ESD hydraulic trips on dual comms loss.
3. Modify the graphics to clearly indicate when comms are lost for each individual well.
4. Test comms fail-over from A to B. Is this manual or automatic. Do we need better indications?
5. Test the new firmware. Did we order the new cards with the old firmware? Do we want to upgrade now.
6. Provide training for automation personnel on how to swap cards and download configurations. We learned this week that there are two config files to download to the MVI cards. Is this documented?
7. Purchase a permanent test rack and test it? MadDog needs one of their components back next week.

Let me know if you want to proceed and if we have FMCs support to use their lab.

Steve Cotton
Control Systems Engineer
BP GOM Deepwater Production
281 366-0975 Office

From: Oza, Nita
Sent: Wednesday, September 10, 2008 7:04 PM
To: steve.barrett@fmcti.com
Subject: Update on the Atlantis TPU

Steve,

I just wanted to say thankyou so much for listening to us on Monday 8th Sept. I am sorry that I had imposed upon you without notice. I would, however like to update you on the progress from our meeting.

FMC Houston were able to setup a meeting with FMC Norway on 10th Sept at 8am. Both parties from FMC, plus BP reps were in the conference call.

The update from the meeting was a little shocking to say the least. To capture the progress I outline the following sequence of event.

1. FMC Houston had tested all the 6 boards and sent two worse boards to FMC Norway
2. Three weeks ago FMC Norway in turn tested the two boards and found that they were able to power up the boards but only for a few hours before the boards dropped out.
3. FMC Norway sent these two board to their sub vendor: Data Response. in the same week.
4. Data Response (DR) tested the boards that week and sent them onto Emerson
5. Emerson then passed them on to Motorola which was two weeks ago.
6. FMC Norway got an update today from DR that DR has no tracking number on the cards to find out where exactly the cards are right now.
7. FMC Houston told BP two weeks ago that preliminary test data should be available to BP last week from Motorola, and full test data this week. But neither the test data were made available. (Not exact sure on how this was communicated from Norway, but this communicated to bp from FMC Houston)

My major concern is that we are at risk of platform shutdown as we still don't know what has caused 50% of the boards to fail. I feel that we have made no progress in the 5 weeks since the first meeting which on 4th Aug 2008. There are a couple of major documentation which needs to put in place before we can really understand what we are about to embark which were requested 5 weeks ago and yet to be developed.
1. A decision xtree, which I had asked FMC to develop on 4th Aug. This has yet to be developed by the Product group from Norway/Houston. A straw man of a decision xtree has put together by the after market group engineer but not reviewed.
2. All documents from the tests which has been carried out onshore and offshore is not colleted to ensure and understand how the system could have failed.

I feel that none of the work FMC has carried out between Norway and Houston has been share properly nor managed at all.

I would like to recommend that FMC Norway needs to take a lead with the product line they have developed and installed on the PQ. I would like to help them understand what our issues have been with this system, so they can possible help us manage our failures. Also, in addition to this, I would like to recommend that we share the full history to all our problem of the SPCU since they started to occur in Dec 07. They may be relevant to the cause of the problem we are seeing right now.

Please advise on how I can help in this to ensure that we have the right amount of effort and focus to resolve a possibility of total failure of the subsea comms and in turn impacting our production.

I am looking forward to hearing from you soon.

Kind regards

Nita Oza
Atlantis Operations
Onshore Subsea Team Lead
Office: 281 366 3901

From: Cotton, Steven L
Sent: Wednesday, September 10, 2008 7:12 AM
To: Ragan, Frank
Subject: FW: Atlantis Subsea Test Rack and Comms

Does this sound OK to you?

From: Oza, Nita
Sent: Tuesday, September 09, 2008 5:04 PM
To: Cotton, Steven L; Berger, Ron K (Manatee); Chan, Roy
Cc: Sun, Henry H (HONEYWELL IND. AUTO. and CNTR); DeJohn, Kenneth P
Subject: RE: Atlantis Subsea Test Rack and Comms

Steve,

I am meeting with FMC tomorrow morning and will address this.

Nita

From: Cotton, Steven L
Sent: Tuesday, September 09, 2008 2:27 PM
To: Oza, Nita; Berger, Ron K (Manatee); Chan, Roy
Cc: Sun, Henry H (HONEYWELL IND. AUTO. and CNTR); DeJohn, Kenneth P
Subject: Atlantis Subsea Test Rack and Comms

Nita,

We setup our test system at FMC and tested the interface to their TPU. We had to work through a small issue with our new Prosoft MVI card configuration but everything seems to be functioning properly now. We would like to move forward with developing the comms interface improvements but we'll need some minimal support from FMC. They have this system setup in a test lab that they use for other purposes so we need to meet with them to see what arrangements we can make so that we don't interfere with their other activities. The system may need to be moved to a more suitable location at their office if we plan to have multiple personnel working on the system. We also discussed that this would be a good opportunity for training of the offshore automation specialists so there will be 1-2 of them for a day or two.

Can you discuss this with FMC to see if we will have access to the room and some support from one of their engineers. The support from FMC should be minimal but we just need to schedule it with them. I'm drafting a document to outline what we propose to do but I won't have it completed until later this week.

Here's the short version:
1. Establish a watchdog timer to provide positive communication status.
2. Modify and test the logic to add the MVI comms failure to the ESD hydraulic trips on dual comms loss.
3. Modify the graphics to clearly indicate when comms are lost for each individual well.
4. Test comms fail-over from A to B. Is this manual or automatic. Do we need better indications?
5. Test the new firmware. Did we order the new cards with the old firmware? Do we want to upgrade now.
6. Provide training for automation personnel on how to swap cards and download configurations. We learned this week that there are two config files to download to the MVI cards. Is this documented?
7. Purchase a permanent test rack and test it? MadDog needs one of their components back next week.

Let me know if you want to proceed and if we have FMCs support to use their lab.

Steve Cotton
Control Systems Engineer
BP GOM Deepwater Production
281 366-0975 Office

713 305-2818 Cell Phone

MoC Safety Hazard Analysis and Operability Review Form

ATLANTIS	BP DEEP WATER DEVELOPMENT	Project No.	1440
MoC Title: TGen Diesel Fuel System Changes		MoC No:	GC787 08-0194
		Rev. No:	0

Safety Hazard Analysis and Operability Review Checklist

MoCs that entail a modification or change to equipment, facilities, technology, or control system logic should be assessed to determine whether a Safety Hazard Analysis and Operability Review should be completed. The following questions should be used to determine whether such a review is needed:

Will any of the following occur?	**Yes**	**No**
1. A significant change to a controlled document, such as, PFDs, P&IDs, layout diagrams, logic diagrams or electrical one-line drawings, operating procedures, SAFE Charts, Safety Flow Diagrams?	☐	☒
2. Major engineering calculations?	☐	☒
3. A change to the environmental impact or the HSE Performance Agenda?	☐	☒
4. The substitution of a part, material or equipment of a different generic type than that which was originally installed OR the addition of a new part, new material or new equipment which did NOT previously exist?	☐	☒
5. The use or substitution of a chemical of a different generic type?	☐	☒
6. A philosophical, procedural or similar change in the flare, relief, emergency shutdown, or emergency blowdown systems?	☐	☒
7. A change to fabrication or installation procedures?	☐	☒
8. A change in process control or safety shutdown system instrumentation, philosophy or application software?	☒	☐
9. A departure from specifications, specified codes or standards?	☐	☒
10. A change to the fire and gas detection system?	☐	☒
11. A piping connection between different piping systems or pipe classes?	☐	☒
12. A change to the fire or explosion protection system or changes to safety features such as access or escape routes, warning signals, or fire-proofing?	☐	☒
13. A change in the Hazardous Area classification?	☐	☒

Answer "Yes" to any of the above, and a Safety Hazard Analysis and Operability Review is required.

MoC Safety Hazard Analysis and Operability Review Form

ATLANTIS	BP DEEP WATER DEVELOPMENT	Project No.	1440
MoC Title: TGen Diesel Fuel System Changes		MoC No:	GC787 08-0194
		Rev. No:	0

Safety Hazard Analysis and Operability Review Required?	☒ YES ☐ NO	If Yes, date completed:

Hazards & Operability Review Summary OR Statement of Outside Hazards Analysis Performed:

A meeting was held on September 9, 2008 with David Waterhouse, Donnie Carter, Mike Conner, Chuck Nagengast, and Frank Ragan. During this meeting, the change to the diesel supply SDV was discussed.

The sole issue of concern resulting from the discussion was the need to ensure that current safe work practices are followed. At issue was whether a technician might presume that the SDV would be closed, and that maintenance could be performed (i.e. a filter change) without verifying proper isolation. In the end, no additional actions were recommended, current permit, JSEA, and procedures provide an appropriate level of control measures.

No additional safety or environmental concerns were identified.

bp

MOC Reviews ?

MOC #: MOC-GC787-08-0194
Date Initiated: 9/10/2008
Initiated By: Ragan, Frank

Reviews Required	Responsible Person	Disposition		Completed By
Technical Review	Nagengast, Chuck	(•) Agree	( ) Disagree	Nagengast, Chuck
O&M Review	Atlantis Maintenance	(•) Agree	( ) Disagree	Ball, Michael
HSE Review	Atlantis Offshore HSE	(•) Agree	( ) Disagree	Bertrand, Chris
Design Safety Review	Atlantis Process Revi	(•) Agree	( ) Disagree	Waterhouse, David
Weight Review	Atlantis Weight Revie	(•) Agree	( ) Disagree	Drennan, Doug
Facility Engineering Manager	DeJohn, Kenneth P	(•) Agree	( ) Disagree	DeJohn, Kenneth P
		( ) Agree	( ) Disagree	
		( ) Agree	( ) Disagree	
		( ) Agree	( ) Disagree	
		( ) Agree	( ) Disagree	
Technical Authority Review (as needed)		( ) Agree	( ) Disagree	
Engineering Authority Review (as needed)		( ) Agree	( ) Disagree	

Does this change require a deviation from Technical Practices or Industry Standards ? ( ) Yes (•) No

Does this change require Technical Authority Review ? ( ) Yes (•) No

Does this change require Engineering Authority Review ? ( ) Yes (•) No

Does this change require any weight to be added or removed ? ( ) Yes (•) No ?

bp

Management of Change

= Required Field

MOC #: MOC-GC787-08-0194
Date Initiated: 9/10/2008
Initiated By: Ragan, Frank

MOC Type:	Technical	MOC Status:	unapp
Facility:	Atlantis	Expected Startup Date:	6/30/2009
System:	Electrical	RFA #:	GC787-0128
Verifier/Coordinator:	Ragan, Frank	Priority:	B (Med)
Shutdown Required:	Unit	Priority Reason:	Production
MOC Duration:	⊙Permanent ○Temporary	Emergency Change:	○Yes ⊙No

Title:

TGen Diesel Fuel System Changes

Scope:

Revise the turbine control program for the three Turbine Generators to open the diesel fuel supply SDV=50x01 when a start is initiated. The SDV will close for any turbine shutdown.

By opening the valve earlier in the sequence, the time required to swap from fuel gas to diesel will be reduced by 10 to 15 seconds. Based on observered performance, this should make the total time required to swap between 15 and 20 seconds.

Justification:

There are several scenarios that can cause the turbine to switch from fuel gas to diesel. Of those scenarios, many involve events that leave little reserve fuel gas volume to complete the transition. One such event included the closure of the fuel gas supply SDV, the diesel system had opened the valve, started the pump, and just cleared the low pressure interlock when the system tripped. A savings of 10 seconds would most likely allowed the swap to successfully complete before the overload trip.

Exhibit 107
Part 9

Atlantis Lightship Alteration Weight Form

This form must be filled out as part of all Management of Change, Site Query and Site Instruction processes. Please use the decision chart below or the definition of lightship in the Atlantis Operating Manual (section 2.7.3) to determine if the project will affect Atlantis lightship weight. In any case, the form must be approved by the Atlantis Marine Team Leader before work begins.

Final lightship alteration information must be provided in order to close out the project. Please review the work that was done and provide updated information corresponding to the actual material used and final locations.

Management of Change, Site Query or Site Instruction number: MOC-GC787-08-0194

Originator: Frank Ragan **email:** frank.ragan@bp.com

Brief description of the project: TGen Diesel Fuel System Changes - software only.

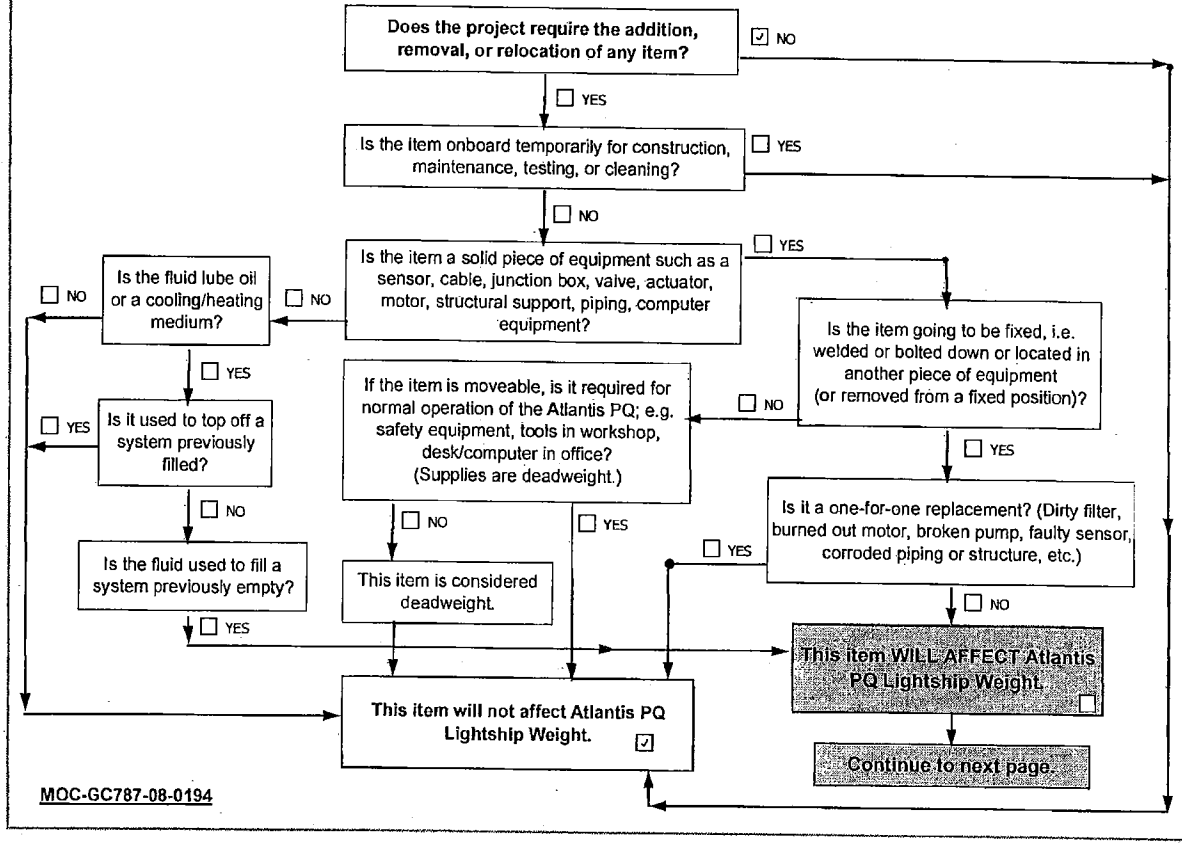
Net weight impact in pounds: n/a lbs **Preliminary** ☐ **Final** ☑

Date of execution – from (mm/dd/yy): 10/1/2008 **to :** 6/1/2008

Location*: n/a

* Inside hull or deck house: please provide room number. Main deck or topsides modules: please provide general area as defined on weight management grid. For relocations, please provide initial (–) and final (+) locations.

Lightship decision chart: Review every item used in the project. Check the Yes / No boxes accordingly.



MOC-GC787-08-0194

Atlantis Lightship Alteration Weight Form

List the lightship items to be added, removed or relocated during the project. Small items such as screws, fittings, couplings, etc. can be listed in bulk. Describe the location of each item as accurately as possible. For distributed items such as cables or pipes, please specify end locations. Check the "Picture" column if a picture or sketch is provided. Check two of the last six columns as appropriate.
*Attach calculations, vendor datasheets or weight certificates as appropriate.

SHEET ___ OF ___

(Make copies of this page if the list is longer than 15 items)

Item description	Location	Picture	Unit Weight	Quantity	Total Weight (lbs)	Addition	Deduction	Relocation	Calculated *.	Vendor Data *	Weighed *
n/a - Software Only		☐				☐	☐	☐	☐	☐	☐
		☐				☐	☐	☐	☐	☐	☐
		☐				☐	☐	☐	☐	☐	☐
		☐				☐	☐	☐	☐	☐	☐
		☐				☐	☐	☐	☐	☐	☐
		☐				☐	☐	☐	☐	☐	☐
		☐				☐	☐	☐	☐	☐	☐
		☐				☐	☐	☐	☐	☐	☐
		☐				☐	☐	☐	☐	☐	☐
		☐				☐	☐	☐	☐	☐	☐
		☐				☐	☐	☐	☐	☐	☐
		☐				☐	☐	☐	☐	☐	☐
		☐				☐	☐	☐	☐	☐	☐
		☐				☐	☐	☐	☐	☐	☐
		☐				☐	☐	☐	☐	☐	☐

Reviewed by: _____ Atlantis Weight Coordinator

Reviewed by: _____ Atlantis Marine Team

Approved by: _____ Atlantis Marine Team

MOC-GC787-08-0194

BPEP_ABB_04135816

Case 4:09-cv-01193 Document 343-15 Filed in TXSD on 04/04/12 Page 3 of 51

MoC Safety Hazard Analysis and Operability Review Form

ATLANTIS	BP DEEP WATER DEVELOPMENT	Project No.	1440
MoC Title: TGen Diesel Fuel System Changes		MoC No:	GC787 08-0194
		Rev. No:	0

Safety Hazard Analysis and Operability Review Checklist

MoCs that entail a modification or change to equipment, facilities, technology, or control system logic should be assessed to determine whether a Safety Hazard Analysis and Operability Review should be completed. The following questions should be used to determine whether such a review is needed:

Will any of the following occur?	**Yes**	**No**
1. A significant change to a controlled document, such as, PFDs, P&IDs, layout diagrams, logic diagrams or electrical one-line drawings, operating procedures, SAFE Charts, Safety Flow Diagrams?	☐	☒
2. Major engineering calculations?	☐	☒
3. A change to the environmental impact or the HSE Performance Agenda?	☐	☒
4. The substitution of a part, material or equipment of a different generic type than that which was originally installed OR the addition of a new part, new material or new equipment which did NOT previously exist?	☐	☒
5. The use or substitution of a chemical of a different generic type?	☐	☒
6. A philosophical, procedural or similar change in the flare, relief, emergency shutdown, or emergency blowdown systems?	☐	☒
7. A change to fabrication or installation procedures?	☐	☒
8. A change in process control or safety shutdown system instrumentation, philosophy or application software?	☒	☐
9. A departure from specifications, specified codes or standards?	☐	☒
10. A change to the fire and gas detection system?	☐	☒
11. A piping connection between different piping systems or pipe classes?	☐	☒
12. A change to the fire or explosion protection system or changes to safety features such as access or escape routes, warning signals, or fire-proofing?	☐	☒
13. A change in the Hazardous Area classification?	☐	☒

Answer "Yes" to any of the above, and a Safety Hazard Analysis and Operability Review is required.

MoC Safety Hazard Analysis and Operability Review Form

ATLANTIS	BP DEEP WATER DEVELOPMENT	Project No.	1440
MoC Title: TGen Diesel Fuel System Changes		MoC No:	GC787 08-0194
		Rev. No:	0

Safety Hazard Analysis and Operability Review Required?	☒ YES ☐ NO	If Yes, date completed:

Hazards & Operability Review Summary OR Statement of Outside Hazards Analysis Performed:

A meeting was held on September 9, 2008 with David Waterhouse, Donnie Carter, Mike Conner, Chuck Nagengast, and Frank Ragan. During this meeting, the change to the diesel supply SDV was discussed.

The sole issue of concern resulting from the discussion was the need to ensure that current safe work practices are followed. At issue was whether a technician might presume that the SDV would be closed, and that maintenance could be performed (i.e. a filter change) without verifying proper isolation. In the end, no additional actions were recommended, current permit, JSEA, and procedures provide an appropriate level of control measures.

No additional safety or environmental concerns were identified.

Ragan, Frank

From: Hanssen, Viggo (KBG) [VHanssen@Dresser-Rand.com]
Sent: Monday, September 01, 2008 1:47 AM
To: Leavelle, Stephen W (HOU); Olsen, Thor (KBG); Bailey, Colin (KBG); Hjelle, Odd (KBG); Solberg, Stein (KBG); Kongsgaard, Jonn (KBG); Johannessen, Rune (KBG)
Cc: Snyder, David D; Ball, Michael A; Cotton, Steven L; Ragan, Frank; Frazier, Donald E (HOU); Nagengast, Charles J; DRCS_Support; Laurin, Chris J (BAT); Bodin, Tim A (HOU)
Subject: RE: BP Atlantis LM-2500s

Hi Steve.

Hope that the hurricane won't hit you guys too hard.

I have had a discussion internally and we agree that the Liquid Fuel External Shutoff Valve can be left open during operation on gas. We agree that this will improve the conditions when/if the unit goes into transfer to liquid.

Viggo Hanssen

Dresser-Rand AS

Phone: (+47) 32287038

-----Original Message-----
From: Leavelle, Stephen W (HOU)
Sent: 28. august 2008 14:54
To: Olsen, Thor (KBG); Bailey, Colin (KBG); Hjelle, Odd (KBG); Solberg, Stein (KBG); Kongsgaard, Jonn (KBG); Johannessen, Rune (KBG); Hanssen, Viggo (KBG)
Cc: Snyder, David D; Ball, Michael A; Cotton, Steven L; Ragan, Frank; Frazier, Donald E (HOU); Nagengast, Charles J; DRCS_Support; Laurin, Chris J (BAT); Bodin, Tim A (HOU)
Subject: RE: BP Atlantis LM-2500s

2nd request, please advise.

Steve Leavelle
Application Lead
Dresser-Rand Control Systems
1 (713) 935-3818 ph
1 (713) 935-3861 fax
SLeavelle@dresser-rand.com

IMPORTANT NOTICE:
This email may be confidential, may be legally privileged, and is for the intended recipient only. Unauthorized access, disclosure, copying, distribution, or reliance on any of it by anyone else is prohibited and may be a criminal offense. Please delete if obtained in error and email confirmation to the sender.

-----Original Message-----
From: Leavelle, Stephen W (HOU)
Sent: Tuesday, August 12, 2008 6:04 PM
To: Olsen, Thor (KBG); Bailey, Colin (KBG); Hjelle, Odd (KBG); Solberg, Stein (KBG);

Kongsgaard, Jonn (KBG); Johannessen, Rune (KBG); Hanssen, Viggo (KBG)
Cc: Snyder, David D; Ball, Michael A; Cotton, Steven L; Ragan, Frank; Frazier, Donald E (HOU); 'Nagengast, Charles J'; DRCS_Support; Laurin, Chris J (BAT); Bodin, Tim A (HOU)
Subject: RE: BP Atlantis LM-2500s

By copy to folks in D-R Norway, please review BP's request below and advise any comments accordingly. I thought this issue had been discussed previously via email but I could not find a record of it.

I do not know who all is on vacation there at the moment, hopefully someone is available to handle this request.

Regards,
Steve Leavelle
Application Lead
Dresser-Rand Control Systems
1 (713) 935-3818 ph
1 (713) 935-3861 fax
SLeavelle@dresser-rand.com

IMPORTANT NOTICE:
This email may be confidential, may be legally privileged, and is for the intended recipient only. Unauthorized access, disclosure, copying, distribution, or reliance on any of it by anyone else is prohibited and may be a criminal offense. Please delete if obtained in error and email confirmation to the sender.

-----Original Message-----
From: Nagengast, Charles J [mailto:charles.nagengast@bp.com]
Sent: Monday, August 11, 2008 7:52 PM
To: Ragan, Frank; Frazier, Donald E (HOU)
Cc: Snyder, David D; Ball, Michael A; Cotton, Steven L; Leavelle, Stephen W (HOU)
Subject: RE: BP Atlantis LM-2500s

Frank / Don:

I would just add that there were never any good reason raised on our side for not leaving this valve open except during shutdown situations when it needed to close.

Unless Dresser Rand has a good reason not to leave it open we should move forward and see if saner heads prevail this time now that we have seen the difficulties it causes in operation having it closed.

Regards

Chuck Nagengast PE
BP Gulf of Mexico Production Company
Rotating Equipment Technical Authority
Office - (281)-366-6169
Cell -

The happiest people don't necessarily have the best of everything; They just make the best of everything they have.....

-----Original Message-----
From: Ragan, Frank
Sent: Monday, August 11, 2008 7:44 PM
To: 'DFrazier@Dresser-Rand.com'; 'SLeavelle@Dresser-Rand.com'

Cc: Nagengast, Charles J; Snyder, David D; Ball, Michael A; Cotton, Steven L
Subject: Re: BP Atlantis LM-2500s

Don,

Yes, that's the right valve. From what Chuck tells me, one of your competitors runs their valves this way.

I just wanted to run the D-R traps before we get too far along with our process safety people.

Thanks,

Frank Ragan
Automation Engineer
Atlantis Facilities Team
(281)366-6341 Office

----- Original Message -----
From: Frazier, Donald E (HOU) <DFrazier@Dresser-Rand.com>
To: Ragan, Frank; Leavelle, Stephen W (HOU) <SLeavelle@Dresser-Rand.com>
Cc: Nagengast, Charles J; Snyder, David D; Ball, Michael A; Cotton, Steven L
Sent: Mon Aug 11 19:19:35 2008
Subject: RE: BP Atlantis LM-2500s

Frank,
Are you referring to the external valve that we request open, but is ultimately managed by your PSS/ESS system?
I assume it is a problem with getting the system to switch over since your gas line is short and a compressor shut down drops the fuel supply pressure too quick. I remember we had to be selective on set points for the low pressure switchover (PLC internal) vs.. the plant system.
We may have to run this by Norway, but I think Holstein considered some time ago to speed it up, but was ultimately rejected.
Perhaps Steve has some input on this.

Don Frazier Ph: 281-507-9697
IMPORTANT NOTICE:
This email may be confidential, may be legally privileged, and is for the intended recipient only. Unauthorized access, disclosure, copying, distribution, or reliance on any of it by anyone else is prohibited and may be a criminal offense. Please delete if obtained in error and email confirmation to the sender.

From: Ragan, Frank [mailto:Frank.Ragan@bp.com]
Sent: Monday, August 11, 2008 6:53 PM
To: Leavelle, Stephen W (HOU); Frazier, Donald E (HOU)
Cc: Nagengast, Charles J; Snyder, David D; Ball, Michael A; Cotton, Steven L
Subject: BP Atlantis LM-2500s

Steve & Don,

Please redirect this as required, you're always at the top of my D-R contact list.

Atlantis is considering a change to the LM-2500 turbine control program.
Currently, the diesel supply SDV is held closed until the engine requests to start on or transition to liquid fuel mode. We'd like to suggest that the SDV be left in the open position during normal operation (fuel gas) to speed to transfer process. This should save 10 to 15 seconds of time waiting for the valve to open when commanded.

This change could be triggered by moving the SDV open request to somewhere close to the START_HOLD, the exact location in the code should be your decision.

Does D-R have any objections to running the turbines on fuel gas with the liquid fuel valve open? If not, we will formalize the change through our MoC process and an official request through a vendor call-out and PO.

Thanks for your help,

Frank

bp

Management of Change

MOC #:	MOC-GC787-08-0194
Date Initiated:	9/10/2008
Initiated By:	Ragan, Frank

MOC Requirements/Responsibilities:

Proceed with MOC Process ? (•) Yes ( ) No ( ) Request Clarification ?

PSSR Responsibility: Atlantis Operations Enginee ... ?

Startup to be Authorized by: Atlantis OIM ... ?

Work Package:

Eng. Work Package Target Date:		Work Order # (If required):	
Onshore contact:		Cost Code(AFE)/WBS Element:	
Offshore contact:		Vendor/Supplier Info:	
Pay Key:		Purchase Order #:	

Hazard Assessment:

Hazard Assessment Type: What If ?

[✓] Hazard Assessment Attached

Hazard Assessment Results: Hazard Assessment results should be either attached or entered below

See attached Hazard review.

The vendor, Dresser-Rand, has also reviewed the requested change, and has agreed that the diesel SDV can be left open during normal fuel gas operation. See the attached confirmation email.

The previous 2003 HAZOP was reviewed, and there were no occurances where the close state of this valve was used as a safeguard.

From: Oza, Nita
Sent: Wednesday, September 17, 2008 4:41 PM
To: McIntosh, Brian <Brian.McIntosh@fmcti.com>; Noe, Robert <Robert.Noe@fmcti.com>; THAI, LINH <LINH.THAI@fmcti.com>; Reiff, Greg <Gregory.Reiff@fmcti.com>; Fleming, Ray H <Ray.Fleming@bp.com>; Chan, Roy <Roy.Chan@bp.com>
Cc: Bradley, George <GEORGE.BRADLEY@fmcti.com>
Subject: RE: Updated: TPU Boards
Attach: Subsea Controls.zip

Brian,

I was not aware that you were waiting on me to get the data or a procedure for maintenance.

Attached are the ELDs for the system. The drawing for the SPCU 1 is out of date, and will forward you the as built as soon as I have it.
The maintenance procedure for the system would have been provided by yourselves. I have asked the PQ for one, and will forward it to you if we have one.
Also, please let me know what drawings you are waiting for from Roy, maybe I can get them to you.

-----Original Message-----
From: McIntosh, Brian [mailto:Brian.McIntosh@fmcti.com]
Sent: Wednesday, September 17, 2008 11:02 AM
To: Noe, Robert; THAI, LINH; Reiff, Greg; Oza, Nita; Fleming, Ray H; Chan, Roy
Cc: Bradley, George
Subject: RE: Updated: TPU Boards
Importance: High

I had intended to present this information at the meeting that was scheduled for yesterday afternoon but Greg and I were the only one's that attended. I am attaching the meeting material. There are some drawings of the system that I requested in electronic form from Roy Chan and to date have not received those. There is an action item from both the August 6th and August 13th meeting for Nita to produce a map of which wells are being supported by which cabinet and slot. I have not seen that, has that been done? I also need a copy of the periodic maintenance procedure(s) for the topside control system on BP Atlantis.

Best Regards,

Brian L. McIntosh P.E.
Topside Product Engineering Manager
Subsea Controls Business Unit

brian.mcintosh@fmcti.com
Phone: 281-591-4439

-----Original Message-----
From: Noe, Robert
Sent: Wednesday, September 17, 2008 10:09 AM
To: THAI, LINH; Reiff, Greg; McIntosh, Brian
Cc: Bradley, George
Subject: FW: Updated: TPU Boards

Hope all is well with your homes and families.

Greg / Brian-
Nita and Ray have their hands full with getting Atlantis back on line.
Please send Nita and Ray a status updating per her request below.

1. Norway TPU boards
2. SPCU Cabinet investigation procedure

3. Decision tree
4. Minutes of meeting held with Norway 9/10

Please let me know what when this week is good for you to present and I'll get it set up.

Regards,

Robert Noe

Project Manager - BP Atlantis

E: robert.noe@fmcti.com

P: +1.281.591.8074

FMC Technologies, Inc.

1777 Gears Road | Houston, TX | 77067 USA

Phone: +1.281.591.4000

www.fmctechnologies.com

-----Original Message-----
From: Oza, Nita [mailto:Nita.Oza@bp.com]
Sent: Tuesday, September 16, 2008 4:03 PM
To: Noe, Robert; Fleming, Ray H
Cc: Barrett, Steve
Subject: RE: Updated: TPU Boards

Robert,

I hope you are well, and did not have much damage to your home and that your family is safe.

I am sorry that I could not make this meeting today, we are trying to get Atlantis started up, after the hurricane, and had to cover of the integrity of the flowline risers and umbilical before start up.
Can you please help in rearranging this meeting for an update on the TPU. I would like an update on the progress that should have been made in Norway with regards to the boards which we have lost track, and what work has been carried on the review of the SPCU cabinet investigation procedure, as well as the development of the decision xtree for the
investigation of the root cause analysis on the TPU. My expectation
was that Brian McIntosh was going to send the minutes of meeting from the 10th Sept with all the action items which were addressed in the meeting. I have yet to see the meeting notes from FMC.

Can we please meet this week?

Kind regards
Nita Oza
Atlantis Operations
Onshore Subsea Team Lead
Office: 281 366 3901

-----Original Appointment-----
From: Noe, Robert [mailto:Robert.Noe@fmcti.com]
Sent: Thursday, September 11, 2008 9:44 AM

To: Noe, Robert; Fleming, Ray H; Oza, Nita; Bradley, George; Reiff, Greg; THAI, LINH; McIntosh, Brian; Slatter, Arlene
Subject: Updated: TPU Boards
When: Tuesday, September 16, 2008 1:30 PM-3:00 PM (GMT-06:00) Central Time (US & Canada).
Where: FMC Gears Rd. Draw Works CR

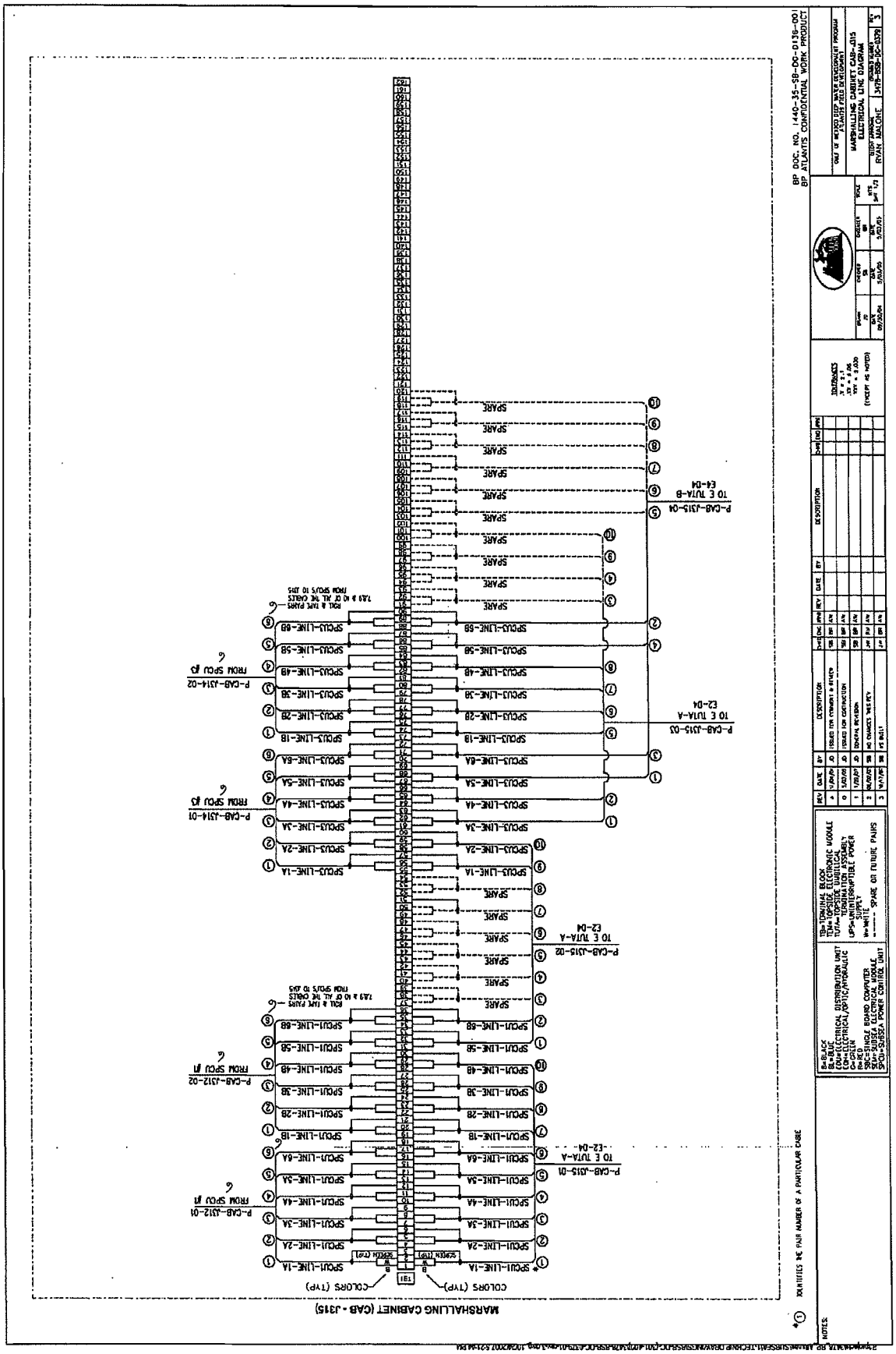
Nita Oza has confirmed availability for this meeting.

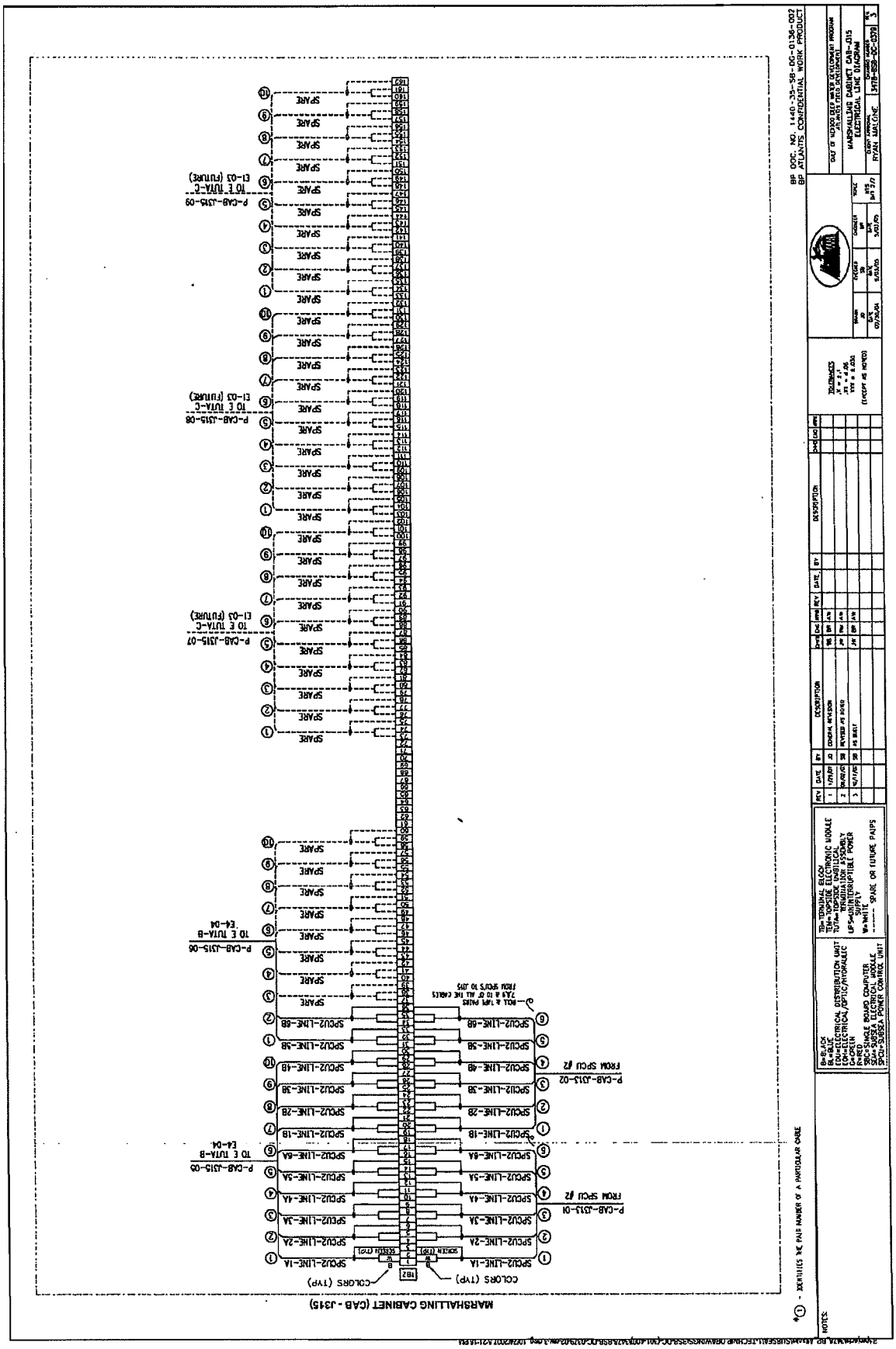
Draw Works Conference Room is reserved. I will meet Nita and Ray in the front lobby.

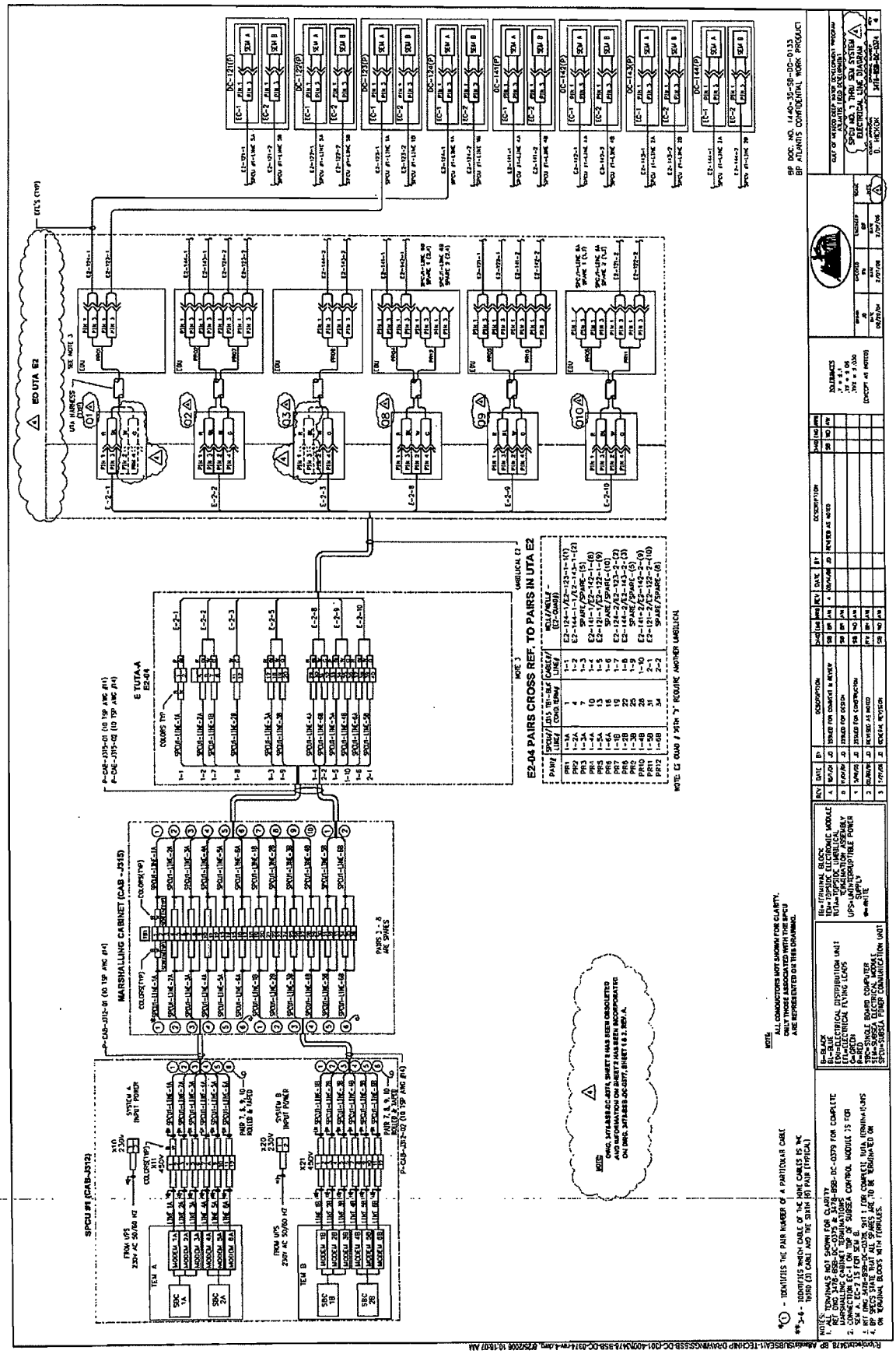
Brian / Greg-
We need to get an agenda to all parties, by the end of the day today, if at all possible.

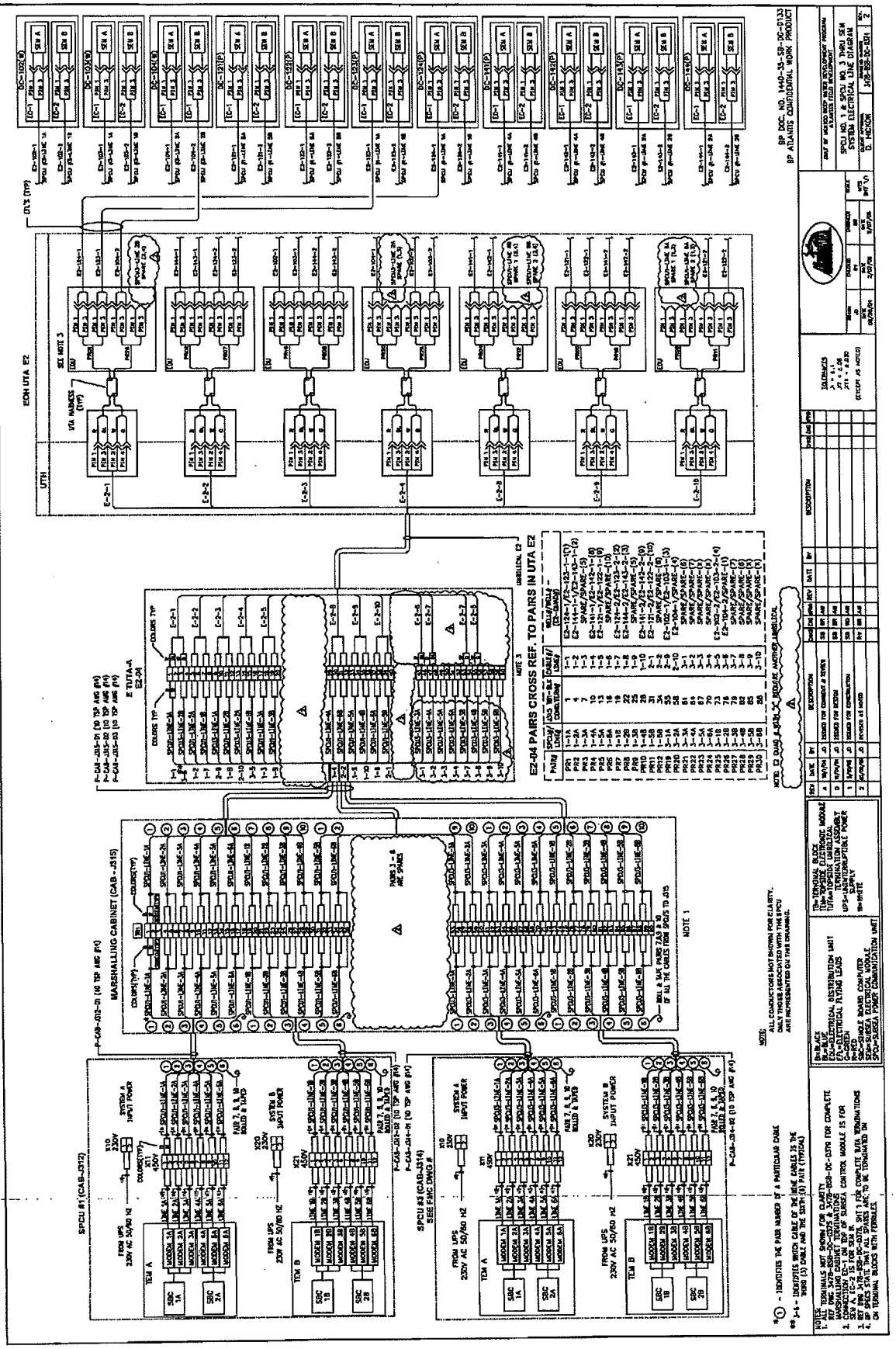
Please advise if this time at FMC Gears Rd works for you. Except for Linh Thai all of the FMC team is available at this time.

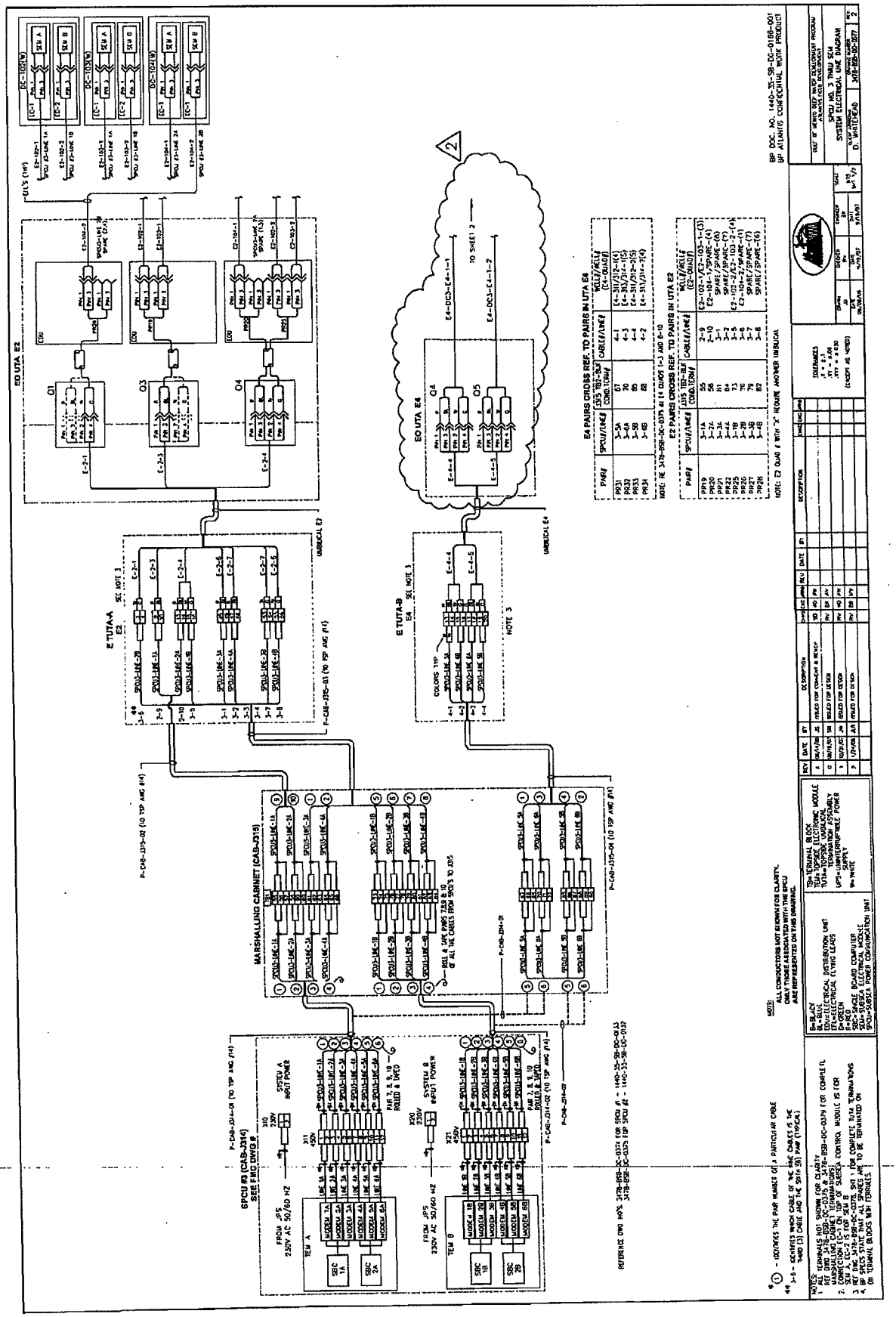
BE SAFE!

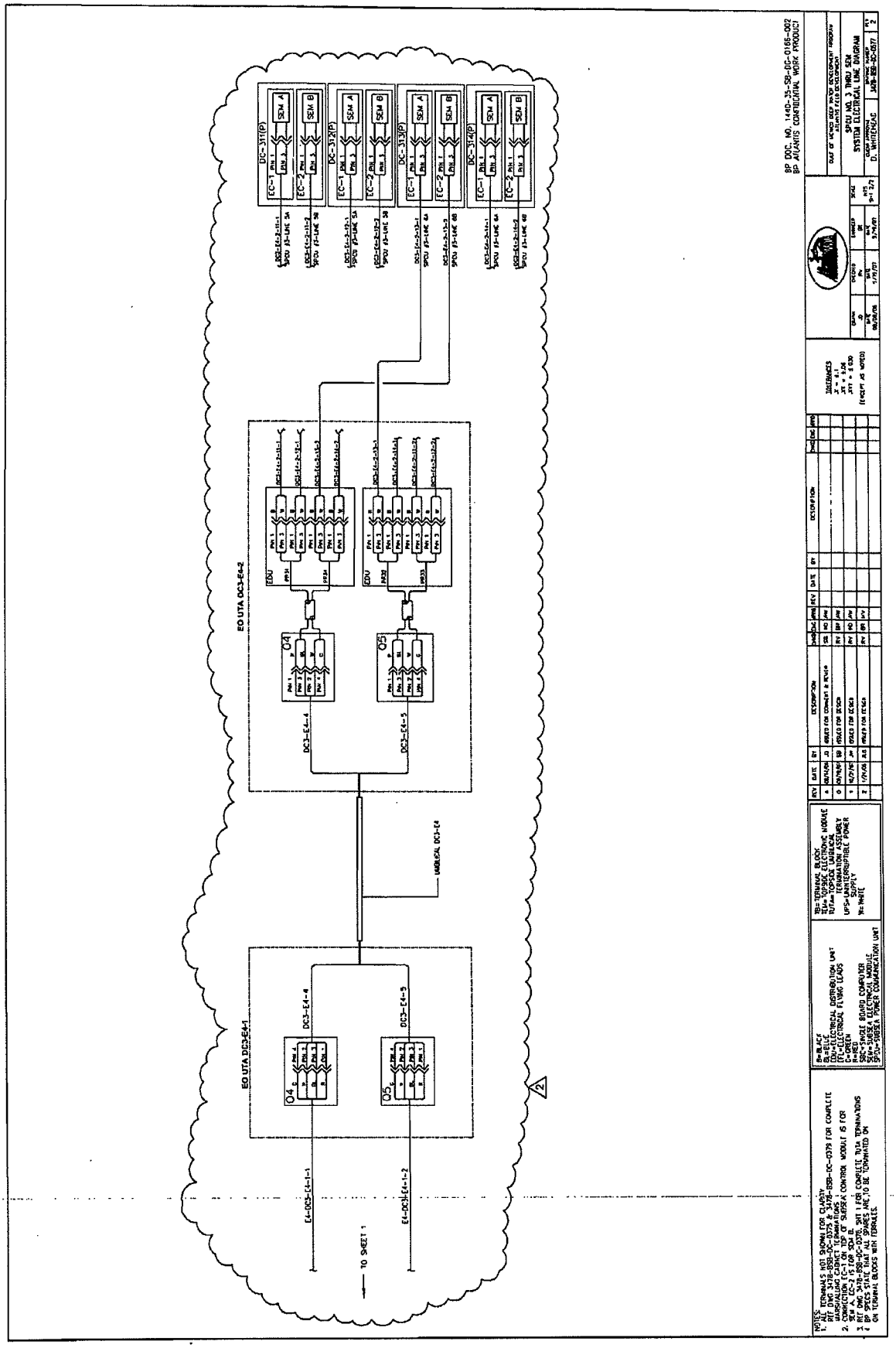


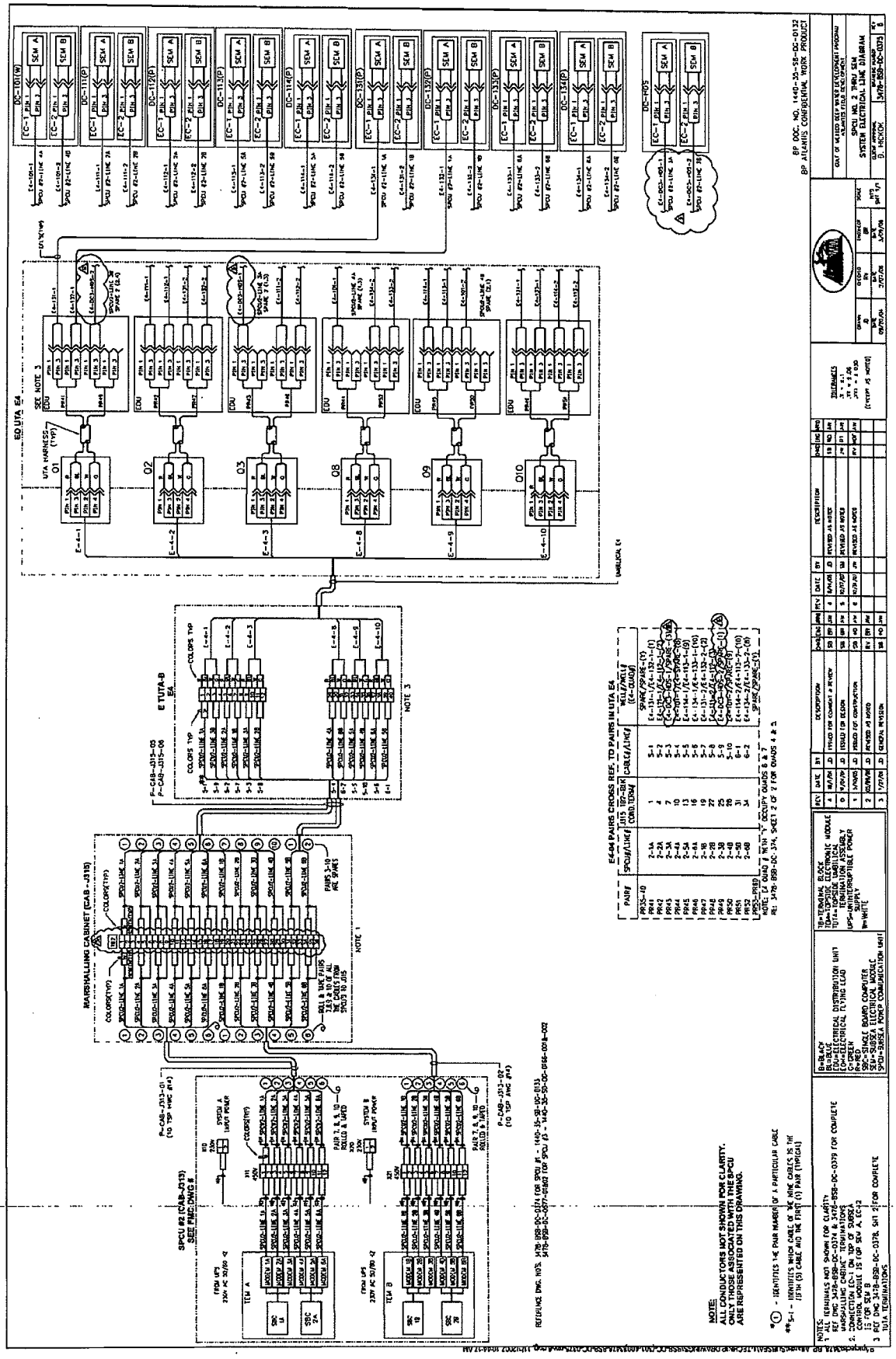









BP DOC. NO. 1440-35-SB-DC-0165-002
BP ATLANTIS CONFIDENTIAL WORK PRODUCT
DC-311(P)
DC-312(P)
DC-313(P)
DC-314(P)
SEM A
SEM B
EC-1
EC-2
EQ UTA DC3-E4-2
EQ UTA DC3-E4-1
DC3-E4-4
DC3-E4-5
HORIZONTAL DC3-E4
E4-DC3-E4-1-1
E4-DC3-E4-1-2
TO SHEET 1
SYSTEM ELECTRICAL LINE DIAGRAM



From: Cotton, Steven L <Steven.Cotton@bp.com>
Sent: Thursday, September 18, 2008 6:15 PM
To: Fleming, Ray H <Ray.Fleming@bp.com>; Oza, Nita <Nita.Oza@bp.com>; Berger, Ron K (Manatee) <ron.berger@bp.com>; Snow, Jeff R <Jeff.Snow@bp.com>
Subject: RE: SPCU Hardware Diagnostic Procedure

Nita,

This procedure looks good. I had a chance to look at the cabinets and equipment about a week after the 4 boards failed and all voltages and temperatures were fine. The cooling fans were running and the voltage levels were steady. The trends will be very helpful but we should keep them enabled and logging for a few weeks if possible.

The one thing that was unusual was the vibration on the cabinets. It didn't seem excessive but it was very noticeable. The MCS cabinet with the Rockwell equipment did not have any noticeable vibration but the FMC cabinets were vibrating much more than would typically be found in an equipment\server room environment. We should probably check this with a handheld monitor once the facility is back online. We should also check it several times to verify that certain generators or pumps do not have a specific impact. There have been several issues related to vibration so we should at least take a few readings. FMC or Motorola may have some environmental specs that include vibration.

Steve

From: Fleming, Ray H
Sent: Thursday, September 18, 2008 3:52 PM
To: Oza, Nita; Berger, Ron K (Manatee); Snow, Jeff R; Cotton, Steven L
Subject: RE: SPCU Hardware Diagnostic Procedure

Nita,

Some comments:

Section 3.0 trending - the test procedure should clarify what we are looking for in the trend - i.e what are the nominal quiescent currents and voltages, what are the acceptable deviations from these nominal values. The procedure should also indicate if the trend data is acceptable. The procedure should also have space to record any non-conformance, i.e. current or voltage out of tolerance, current or voltage spikes etc.

3.2.2 cabinet temperature - as well as point room and cabinet temperatures, do we not want to capture a 24 or 48 hour trend of room and cabinet temperatures.

3.2.3 cabling

1. What constitutes correct grounding? Is there a drawing, will resistance measurements be taken?
2. How to we ensure all wires are checked for damage?
3. How will loose connections be verified - by pulling on each connection? - this should be clarified.

3.2.4 VME boards and backplane

4. Are there any special tools required for stress crack verification, flashlight? Magnifying glass?

3.3.1 (3.3.1.1, ..2.1, ..3.1, ..4.1) Add check box to indicate acceptable voltage reading - same for 3.3.1.2, ..2.2, ..3.2, ..4.2 TEM power supplies

3.3.1.5 How will over voltage relays be checked - by test? or is there a visual indication?

Regards

Ray

From: Oza, Nita
Sent: Thursday, September 18, 2008 12:59 PM
To: Fleming, Ray H; Berger, Ron K (Manatee); Snow, Jeff R; Cotton, Steven L
Subject: FW: SPCU Hardware Diagnostic Procedure

Guys,

Can you please help me out, and review this procedure. This will used to inspect the cabinets and all the hardware.

I need your comments by tonight.

Kind regards

Nita Oza
Atlantis Operations
Onshore Subsea Team Lead
Office: 281 366 3901

From: Kamau, Polycarp [mailto:Polycarp.Kamau@fmcti.com]
Sent: Thursday, September 18, 2008 12:45 PM
To: Oza, Nita
Subject: SPCU Hardware Diagnostic Procedure

Nita,

Attached is the SPCU Hardware Diagnostic procedure.

Regards,

Polycarp Kamau
Customer Support Installation Engineering
E: Polycarp.Kamau@fmcti.com | **P: 281 405 2228**

FMC Technologies, Inc
1777 Gears Rd | Houston, TX | 77067 USA
P: 281 591 4000 | F: 281 591 3884
www.fmctechnologies.com

This communication (and/or the documents accompanying it) may contain confidential information belonging to the sender or intended recipient. The information is intended solely for the use of the individual or entity named above. If you are not the intended recipient, you are hereby notified that any disclosure, copying, distribution or the taking of any action in reliance on the contents of this information is strictly prohibited. If you receive this communication in error, please notify us immediately by telephone to arrange for the return of the documents.

From: McIntosh, Brian <Brian.McIntosh@fmcti.com>
Sent: Friday, September 19, 2008 5:26 PM
To: Akkoca, Abdullah <Abdullah.Akkoca@fks.fmcti.com>
Cc: Oza, Nita <Nita.Oza@bp.com>; Reiff, Greg <Gregory.Reiff@fmcti.com>
Subject: FW: SPCU hardware diagnostic procedure

I am forwarding this e-mail that was sent this afternoon. I met with the BP reps today and they asked again for the decision tree. Can you give me an idea of how long that will take?

Best Regards,

Brian L. McIntosh P.E.
Topside Product Engineering Manager
Subsea Controls Business Unit

brian.mcintosh@fmcti.com
Phone: 281-591-4439

From: Oza, Nita [mailto:Nita.Oza@bp.com]
Sent: Friday, September 19, 2008 4:18 PM
To: Kamau, Polycarp; McIntosh, Brian; THAI, LINH; Nehra, Aneet; Reiff, Greg; Leal, JJ
Subject: SPCU hardware diagnostic procedure

Polycarp, Brain, Aneet,

We have reviewed the procedure for the SPCU cabinet, and the following questions, and comments need to be addressed in the procedure.

I would like to suggest that we address these comments as an addendum to the procedure, as it may be very difficult to get an approved procedure out from the Houston office in time to carry this work out tomorrow afternoon. Also, can you please copy Polycarp and Aneet, the additional requests from FMC Norway, as this work will be carried out tomorrow afternoon, and I would like us to get as much information from the inspection as possible.

Please let me know if you are going to have any problems with this.

- it would seem to me we would want some voltage over time to ensure it remains within parameters and doesn't become too dirty for the cabinet.
- Steve mentioned once that he thought the cabinets were exposed to a lot of vibration so some sort of test looking at that would be appropriate.
- do the cabinets require a ground? seems like we would want to test the ground.
- are we interested in any transient events? for example, what happens when we lose power from platform and then power back up. can we simulate this?
- I know this is internal to the cab, but what happens, when we power up and down the tem? any chance we are getting a surge internally.
- are the boards clear from any wiring or other stuff?
- is there a way to inspect each board to ensure they are fully seated without disturbing them?
- do we want to test the boards in all the slots to ensure they are fit snug and can't be push down more?

- do we have a dummy board to test the power coming directly to the SBC?
- should we do any surveillance through our normal power up and power down sequence from a hurricane abandonment?
- is the MVI communication to the SBC all input / output? is there anything we would want to monitor there?

Section 3.0 trending - the test procedure should clarify what we are looking for in the trend - I.e what are the nominal quiescent currents and voltages, what are the acceptable deviations from these nominal values. The procedure should also indicate if the trend data is acceptable. The procedure should also have space to record any non-conformance, i.e. current or voltage out of tolerance, current or voltage spikes etc.

3.2.2 cabinet temperature - as well as point room and cabinet temperatures, do we not want to capture a 24 or 48 hour trend of room and cabinet temperatures.

3.2.3 cabling

1. What constitutes correct grounding? Is there a drawing, will resistance measurements be taken?
2. How to we ensure all wires are checked for damage?
3. How will loose connections be verified - by pulling on each connection? - this should be clarified.

3.2.4 VME boards and backplane

4. Are there any special tools required for stress crack verification, flashlight? Magnifying glass?

3.3.1 (3.3.1.1, ..2.1, ..3.1, ..4.1) Add check box to indicate acceptable voltage reading - same for 3.3.1.2, ..2.2, ..3.2, ..4.2 TEM power supplies

3.3.1.5 How will over voltage relays be checked - by test? or is there a visual indication?

Kind regards

Nita Oza
Atlantis Operations
Onshore Subsea Team Lead
Office: 281 366 3901

From: Kamau, Polycarp <Polycarp.Kamau@fmcti.com>
Sent: Monday, September 22, 2008 5:09 PM
To: Young, Brian J <Brian.J.Young@bp.com>
Cc: Leal, JJ (FMC) <JJ.Leal@fmcti.com>; Nehra, Aneet <Aneet.Nehra@fmcti.com>; Musa, Khalid <Khalid.Musa@fmcti.com>; Oza, Nita <Nita.Oza@bp.com>
Subject: RE: Smart Tool Logs

Brian,

FastScan Server failure messages are occuring because FastScan has been activated in Wells DC121A, DC142A and B and these wells are not yet installed and communicating. That explains the no reply responses seen on the logs.

Line 5A is deactivated on the cabinet. The error you are talking about is the failed time sync command which is generated as a running task within the SBC for time synchronization with the SEM for proper time stamps for fast scan data. You are getting this message because DC122 SEM A has been deactivated and there is no response to this message from the SEM.

Respectfully,

Polycarp Kamau

From: Young, Brian J [mailto:Brian.J.Young@bp.com]
Sent: Mon 9/22/2008 2:24 PM
To: Kamau, Polycarp
Subject: FW: Smart Tool Logs

I am seeing some errors that the FMC should look into while he is offshore:

- There is a large quantity of network errors associated with 10.13.1.1 and 10.3.1.1 related to fastscanserver. These started after gustav and haven't stopped.
- Saw one error associated with 10.2.1.1 but have not seen it again.
- I saw errors associated with dc122 SM 2A, Line 5A on the 19th at 17:02 and on the 20th at 10:34. Sem A is the BAD sem and it should be left powered down by leaving the breaker open. It appears powered down now, but I wanted to remind everyone of it's status.

From: size=1>Thomas, Dennis J
size=1>Sent: Sunday, September 21, 2008 8:55 AM
size=1>To: Berger, Ron K (Manatee); Oza, Nita
size=1>Subject: face=Tahoma size=1>RE: Smart Tool Logs

<<SmartTool.zip>>

From: size=1>Oza, Nita
size=1>Sent: Friday, September 19, 2008 4:13 PM
size=1>To: Berger, Ron K (Manatee); Thomas, Dennis J
size=1>Subject: face=Tahoma size=1>RE: Smart Tool Logs

Actually, can I would like to capture the information from 17th Sept. Can you get all from the 17th, please. I am not sure if DC113, and DC114 boards are behaving.

nita

From: size=1>Berger, Ron K (Manatee)
size=1>Sent: Friday, September 19, 2008 3:41 PM
size=1>To: Thomas, Dennis J; Oza, Nita
size=1>Subject: face=Tahoma size=1>RE: Smart Tool Logs

Dennis, it's the command and report logs that we need. If you want, you can wait till the next time you go to pull them, and then pull todays and tomorrows. Thx.

From: size=1>Thomas, Dennis J
size=1>Sent: Friday, September 19, 2008 3:25 PM
size=1>To: Oza, Nita; Berger, Ron K (Manatee)
size=1>Subject: face=Tahoma size=1>Smart Tool Logs

<< File: Trace080918.txt >> << File: Trace080917.txt >>

From: McIntosh, Brian <Brian.McIntosh@fmcti.com>
Sent: Monday, September 22, 2008 10:35 AM
To: Oza, Nita <Nita.Oza@bp.com>; Fleming, Ray H <Ray.Fleming@bp.com>
Subject: FW: BP atlantis TPU RCA

FYI

Best Regards,

Brian L. McIntosh P.E.

Topside Product Engineering Manager

Subsea Controls Business Unit

brian.mcintosh@fmcti.com

Phone: 281-591-4439

From: Akkoca, Abdullah
Sent: Monday, September 22, 2008 9:18 AM
To: McIntosh, Brian
Cc: Mostad, Geir; Eretveit, Ragnar; Nehra, Aneet; Stuestøl, Geir; Hystad, Bjarne; Kamau, Polycarp
Subject: BP atlantis TPU RCA

Brian,

The product group in Kongsberg conducted a whole day MRB session on the Atlantis TPU issue together with Aneet.

We had both hardware, software engineers available, and we also talked with Kamau Polycarp on the Atlantis Platform.

The summary of the findings and observations are listed below. We have also defined a list of action points that needs to be performed.

The information below is intended for FMC internal use and need to be processed before it is communicated to end customer.

Summary:

1) Atlantis SPCU has a thermostat that activates the FAN's (3 off: cabinet inlet, outlet and between the TEM racks). The default setting is 30 degree Celsius. The thermostat is placed in the upper level of the cabinets. In newer cabinets, the thermostat has been removed, and fans are running continuously.

2) Temperature in cabinet 1: The thermostat stopped working at some point in time, hence the fans have been running all the time since that incident.

3) Temperature in cabinet 2: The thermostat has been working. The fans have been turned on an off dependent of the ambient temperature inside the cabinet. On temperature is 30 degree Celsius.

4) Temperature in cabinet 3: The thermostat has been working. The fans have been turned on an off dependent of the ambient temperature inside the cabinet. On temperature is 30 degree Celsius. This cabinet has not been used for subsea lines, hence there have been no heat generation from the line transformers. This means that the fan has probably not been running at all. However, the TPU cards have been powered, and functionally running with more than a year with insufficient cooling.

5) All failing boards sent to Kongsberg have been installed in cabinet 3.

6) Information from offshore 22/9 regarding C2B2. TPU moved from C2 to C3. The fans were turned on, and the TPU card was working. Then the fans were stopped, and the TPU stopped working after 7 minutes.

Short term actions:

1) Make certain that all fans are running continuously in all three cabinets.
Responsible: FMCH(Polycarp Kamau).

2) Establish an overview of boards potentially affected by over temperature exposure. Time of exposure, and where they have been placed. Responsible : FMCH(TBD)

3) Based on the overview, and replacement schedule should be made.
Responsible: FMCH(TBD)

4) Check out the availability of new TPU boards.
Responsible : FMCK(Geir Mostad)

5) Kongsberg to send comments to existing fault tree document to FMC Houston.
Responsible : FMCK(Geir Mostad)

6) Root cause analysis from Emerson needs to be completed.
Responsible : FMCK(Geir Mostad)

Abdullah Akkoca

Engineering Responsible, Electrical Products Group

E:abdullah.akkoca@fks.fmcti.com | P: +47 3228 8049 |

From: Mostad, Geir
Sent: 22. september 2008 15:44
To: Akkoca, Abdullah
Subject: BP atlantis

From: Angel, Keith F <keith.angel@bp.com>
Sent: Tuesday, September 23, 2008 12:48 PM
To: Young, Brian J <Brian.J.Young@bp.com>; Oza, Nita <Nita.Oza@bp.com>
Cc: Carlson, Brian H <Brian.Carlson@bp.com>
Subject: DC114 DHG Data Problem

Prior to ~17:00 on 20-Sep, SEM-A DHG was reporting good data to ProcessNet, but has not reported good data since.
Prior to ~19:50 on 21-Sep, SEM-B DHG was reporting flat line data to ProcessNet, but has been reporting good data since.

Is there any correlation between these times and the recent cabinet work?

Thanks,
Keith

From: Young, Brian J
Sent: Tuesday, September 23, 2008 11:31 AM
To: Angel, Keith F; Oza, Nita
Cc: Carlson, Brian H
Subject: RE: DC113 AMV override installed and in operation

From Sept. 17 - 20, it looks like both SEM-A DHG's and SEM-B DHG's were working properly. Then around 1800 on Sept 20, the A side dropped out.

- Brian

From: Angel, Keith F
Sent: Tuesday, September 23, 2008 11:05 AM
To: Oza, Nita; Young, Brian J
Cc: Carlson, Brian H
Subject: RE: DC113 AMV override installed and in operation

Prior to the recent work, the DC114 downhole gauges on SEM-A were reporting good data to ProcessNet, but the gauges on SEM-B were not. Now the gauges on SEM-A are not reporting good data, but the gauges on SEM-B are. Was this expected or is there a data gathering problem?

Thanks,
Keith

From: Oza, Nita
Sent: Monday, September 22, 2008 9:11 PM
To: Todd, Simon P; Lowe, Jon D; Taylor, Alastair; Broman, William H(HOU); Berger, Ron K (Manatee); Young, Brian J; Hughes, John D; Herrmann, Douglas T; Gipson, Les; Harrison, Rickey; Powell, Joe; Sustala, Dennis R; Humphrey, Kathryn; Angel, Keith F
Cc: Turner, Dave
Subject: DC113 AMV override installed and in operation

Dear All,

I just want to inform you that the subsea group has successfully installed the AMV linear override actuator on DC113. The well was successfully tested this evening and is ready for operations.

The work was completed by several groups within the Atlantis Subsea and PQ operations. I would like to thank John Hughes and Daniel Gutierrez for coming up with a solution. They worked with FMC to deliver a subsea actuator which allowed us to by-pass the leaking actuator on DC113 AMV and still operate the AMV valve as required by the MMS. This actuator was installed by the DDII ROV, which was lead by Eric Munstereifel and his team. The final steps of this installation was completed this morning. The offshore production team led by Jim Ross, started the work in earnest last night around 9pm by setting up the comms and completing the commissioning of both DC114 and DC113 this evening for normal operations. I would also like to thank Brian Young for his due diligence on developing a very through procedure for the PQ.

We were able to take the advantage of PQ readiness time post IKE to complete this work, and saving a 48hr shut of DC113 and 8hr shutdown of DC114.

The photos of the linear over ride tool were taken by the ROV from the DDII.

Kind regards

Nita Oza
Atlantis Operations
Onshore Subsea Team Lead
Office: 281 366 3901
Cell:

From: Young, Brian J <Brian.J.Young@bp.com>
Sent: Tuesday, September 23, 2008 12:28 PM
To: Angel, Keith F <keith.angel@bp.com>; Oza, Nita <Nita.Oza@bp.com>
Cc: Carlson, Brian H <Brian.Carlson@bp.com>
Subject: RE: DC113 AMV override installed and in operation

This was not expected. Thanks for the heads up. We will have to look into this.

- Brian

From: Angel, Keith F
Sent: Tuesday, September 23, 2008 11:05 AM
To: Oza, Nita; Young, Brian J
Cc: Carlson, Brian H
Subject: RE: DC113 AMV override installed and in operation

Prior to the recent work, the DC114 downhole gauges on SEM-A were reporting good data to ProcessNet, but the gauges on SEM-B were not. Now the gauges on SEM-A are not reporting good data, but the gauges on SEM-B are. Was this expected or is there a data gathering problem?

Thanks,
Keith

From: Oza, Nita
Sent: Monday, September 22, 2008 9:11 PM
To: Todd, Simon P; Lowe, Jon D; Taylor, Alastair; Broman, William H(HOU); Berger, Ron K (Manatee); Young, Brian J; Hughes, John D; Herrmann, Douglas T; Gipson, Les; Harrison, Rickey; Powell, Joe; Sustala, Dennis R; Humphrey, Kathryn; Angel, Keith F
Cc: Turner, Dave
Subject: DC113 AMV override installed and in operation

Dear All,

I just want to inform you that the subsea group has successfully installed the AMV linear override actuator on DC113. The well was successfully tested this evening and is ready for operations.

The work was completed by several groups within the Atlantis Subsea and PQ operations. I would like to thank John Hughes and Daniel Gutierrez for coming up with a solution. They worked with FMC to deliver a subsea actuator which allowed us to by-pass the leaking actuator on DC113 AMV and still operate the AMV valve as required by the MMS. This actuator was installed by the DDII ROV, which was lead by Eric Munstereifel and his team. The final steps of this installation was completed this morning. The offshore production team led by Jim Ross, started the work in earnest last night around 9pm by setting up the comms and completing the commissioning of both DC114 and DC113 this evening for normal operations. I would also like to thank Brian Young for his due diligence on developing a very through procedure for the PQ.

We were able to take the advantage of PQ readiness time post IKE to complete this work, and saving a 48hr shut of DC113 and 8hr shutdown of DC114.

The photos of the linear over ride tool were taken by the ROV from the DDII.

Kind regards

Nita Oza
Atlantis Operations
Onshore Subsea Team Lead
Office: 281 366 3901

From: Oza, Nita
Sent: Tuesday, September 23, 2008 12:30 PM
To: Young, Brian J <Brian.J.Young@bp.com>; Fleming, Ray H <Ray.Fleming@bp.com>; Berger, Ron K (Manatee) <ron.berger@bp.com>; Cotton, Steven L <Steven.Cotton@bp.com>; Ragan, Frank <Frank.Ragan@bp.com>
Subject: Temperature control in the SPCU cabinets.

Dear All,

From the inspection work carried out offshore the note below are the finding from the investigation.

1) Atlantis SPCU has a thermostat that activates the FAN's (3 off: cabinet inlet, outlet and between the TEM racks). The default setting is 30 degree Celsius. The thermostat is placed in the upper level of the cabinets. In newer cabinets, the thermostat has been removed, and fans are running continuously.

2) Temperature in cabinet 1: The thermostat stopped working at some point in time, hence the fans have been running all the time since that incident.

3) Temperature in cabinet 2: The thermostat has been working. The fans have been turned on an off dependent of the ambient temperature inside the cabinet. On temperature is 30 degree Celsius.

4) Temperature in cabinet 3: The thermostat has been working. The fans have been turned on an off dependent of the ambient temperature inside the cabinet. On temperature is 30 degree Celsius. This cabinet has not been used for subsea lines, hence there have been no heat generation from the line transformers. This means that the fan has probably not been running at all. However, the TPU cards have been powered, and functionally running with more than a year with insufficient cooling.

The thermostats on the cabinets have been adjusted to 10degC in order to keep the fans operating.

I spoke to both Frank Ragan and Steven Cotton with regards to the changes that have been made in the cabinets to keep the fans operating for now. I had also asked whether we need to raise an MOC to reflect this change. Both have said that we do not need an MOC as the thermostats are still working, and have not been by-passed, and that they see the change as calibration the thermostats.

kind regards

Nita Oza
Atlantis Operations
Onshore Subsea Team Lead
Office: 281 366 3901

From: Cotton, Steven L
Sent: Tuesday, September 23, 2008 10:29 AM
To: Ragan, Frank
Subject: FW: Cabinet inspection work ongoing, and results to date.
Attachments: FW: Action Items from the meeting on 10th Sept 2008; FW: BP atlantis TPU RCA

Just FYI, the first e-mal is from Polycarp.

From: Berger, Ron K (Manatee)
Sent: Monday, September 22, 2008 1:13 PM
To: Oza, Nita; Cotton, Steven L
Subject: FW: Cabinet inspection work ongoing, and results to date.

do we want to consider adding remote monitoring of temperature in the cabinets?

From: Oza, Nita
Sent: Monday, September 22, 2008 9:45 AM
To: Young, Brian J; Berger, Ron K (Manatee); Fleming, Ray H
Subject: Cabinet inspection work ongoing, and results to date.

You guys need to know this.

I am wondering if a maintenance procedure ever came out from FMC on the Cabinets.

Nita

From: McIntosh, Brian [Brian.McIntosh@fmcti.com]
Sent: Monday, September 22, 2008 9:36 AM
To: Oza, Nita; Fleming, Ray H
Subject: FW: Action Items from the meeting on 10th Sept 2008

FYI

Best Regards,

Brian L. McIntosh P.E.
Topside Product Engineering Manager
Subsea Controls Business Unit

brian.mcintosh@fmcti.com
Phone: 281-591-4439

From: Kamau, Polycarp
Sent: Sunday, September 21, 2008 7:58 AM
To: Leal, JJ; Akkoca, Abdullah
Cc: Hartley, Jamie; Nehra, Aneet; McIntosh, Brian; Stuestøl, Geir; Mostad, Geir; Berg, Johnny; Eretveit, Ragnar; Furneaux, Dale; Musa, Khalid
Subject: RE: Action Items from the meeting on 10th Sept 2008

We completed performing the SPCU Hardware Test on SPCU C2 yesterday with one major observation. There is a fan installed on the Swing frame right on top of the TPUs 2A and 2B and this fan is activated by Thermostat TH1 which was set at 30 degrees C. We noted that this fan sparingly turned on and as a result the temperature on the TEM back plane rose to about 105 degrees F. What was interesting however is that whenever this temperature rose beyond 90 degrees F, TPU 2B disappered from the running configuration. Resetting the TPU at this point yielded no results and the CPU LED light remained lit solid green. We then activated the fan and let the temperature on the TEM backplane to cool down to about 76 degrees F and we were able to reset the TPU successfully.

I tried to replicate this failure by deactivating the fan and watch to determine when the TPU disappered. The temperature on the surface of the TEM backplane rose from 75 degrees F to 95 degrees within 7 minutes and board disappered from the running configuration. Resetting the board at this elevated temperature did not yield any result. The CPU light was again lit solid green.

There is indication that some components on the TEM backplane and on the TPU board itself are overheating when the Fan is not running and possibly causing the TPU to fail. We changed out the the TPU board in SPCU 2B with a new board and put the failing board in SPCU C3 for additional monitoring. We left the board running overnight with fans activated and the board was still running this morning. I intend to deactivate the fan and see if the problem will reappear again this time in a different cabinet.

I will keep you informed of the latest results as we move on to perform a hardware test on the other cabinets. Please advise on any other tests that you would like conducted on the cabinet while I'm still on the platform.

Very Respectfully,

Polycarp Kamau

Customer Support Engineering

From: Leal, JJ
Sent: Fri 9/19/2008 12:11 AM
To: Akkoca, Abdullah
Cc: Hartley, Jamie; Nehra, Aneet; McIntosh, Brian; Stuestøl, Geir; Mostad, Geir; Berg, Johnny; Eretveit, Ragnar; Kamau, Polycarp
Subject: RE: Action Items from the meeting on 10th Sept 2008

Abdullah

We have a question on **Action point 2**:

Verify the current consumption for each power output (+5V, -12V, +12V, +24V).

Are we checking for current drawn on these outputs? If this is the case, what are the acceptance criteria for the current readings? Also, please let us know if there is any other testing or troubleshooting you want us to perform while Polycarp is offshore on the platform.

Polycarp will be at platform on Saturday and the scheduled work should take from 2 to 4 days; therefore you guys would have time to call him at the platform if needed. We think this is a good opportunity, since we will have a FMC Houston Engineer at the platform and a FMC Houston Engineer at Norway joined by the Product Engineers.

These are some of the numbers for the BP Atlantis platform:

- 337-735-2222
- 337-735-2438
- 337-735-2318
- 337-735-2230

Thanks for your help.

Best regards,
JJ

From: Akkoca, Abdullah
Sent: Tuesday, September 16, 2008 10:36 AM
To: Leal, JJ
Cc: Hartley, Jamie; Nehra, Aneet; McIntosh, Brian; Stuestøl, Geir; Mostad, Geir; Berg, Johnny; Eretveit, Ragnar
Subject: RE: Action Items from the meeting on 10th Sept 2008

JJ,

This is our status from Kongsberg today.

Action point 1:
We have not been able to reach Emerson today but the latest status from last Friday 12/9 was:

RMA 91077 - s/n 8218638 is in the US Repair Center and being given priority repair.
RMA 91075 - s/n 8218658 is on the way to the US Repair Center, set to arrive 9/11, this unit will have priority one status.

Our contact at Emerson Motorola is:

Dee Lightfoot
Contact Center Manager
Embedded Computing

Emerson Network Power
T +1-602-438-6118
dee.lightfoot@emerson.com

Action point 2:
The comments on the cabinet procedure as listed below:
The procedure looks fairly good. Her are some minor comments, added in blue:

3.1 Trending
Start logging the input current and voltage(and temperature) for each cabinet in SmartTool.

3.2.4 VME Boards and Backplanes

5. Look for bended pins. (add)

3.3.1.2 System A TEM Power Supply

Verify the current consumption for each power output (+5V, -12V, +12V, +24V).

Action point 4:
This tree can work as a good starting point.
1) Update of text in Gate 7: replace TPU with Hardware (both TPU and cabinet).
2) Transport and handling must be added as a point under Damage due to cabinet gate 13.

We have look at the boards we have received:
They worked properly at arrival, but failed (CPU light lit) after some hours.
A potential exploration can be contamination or intermittent connection somewhere inside the TPU- board.
This can evolve over time due to (normal) mechanical stress and temperature changes.
This can be related to: Damage due to manufacturing error: gate 18.

Explanation for the new boards that are failing when thy are put into the cabinet:
The explanation above does not fit as good in this situation but it can't be ruled out.
We need some more information on the new boards. (Serial No. and boot revision).

In this case we need to consider all the points under Improper maintains gate 17 and Damage due to cabinet gate 13.

Event 33,43,44 should be covered in the test procedure.
Logging activities can be started to monitor event 37, 41, 42.

We can cover event 26 by comparing current consumption and resistance for the power connections in the cabinets and compare the result with a working cabinet.

Event 36 we need evaluation by Emerson- Motorola.

Abdullah Akkoca
Engineering Responsible, Electrical Products Group
E:abdullah.akkoca@fks.fmcti.com | P: +47 3228 8049 |

From: Leal, JJ
Sent: 16. september 2008 07:02
To: Akkoca, Abdullah; Stuestøl, Geir; Mostad, Geir; Sylte, Bjørn
Cc: Hartley, Jamie; Nehra, Aneet; McIntosh, Brian
Subject: FW: Action Items from the meeting on 10th Sept 2008

Abdullah

I received a phone call from Nita Oza (BP) today requesting an update on the items mentioned in the email below, specially the location of the boards as well as the name of the person responsible for the boards within the sub vendor company. She will have a meeting on Tuesday with management and she will be asked about these issues.

Aneet mentioned that he will be available on Monday, September 22. Please let us know if it will be possible to arrange some meetings with the hardware/software people, plus a meeting with DEA for this date. We can probably extend the trip one more day if necessary.

Thanks for your help.

Best regards
JJ

From: Oza, Nita [mailto:Nita.Oza@bp.com]
Sent: Wed 9/10/2008 4:57 PM
To: McIntosh, Brian; Berg, Johnny; Nehra, Aneet; Hartley, Jamie; Leal, JJ; Chan, Roy; Fleming, Ray H; Kamau, Polycarp; Akkoca, Abdullah; Stuestøl, Geir
Subject: Action Items from the meeting on 10th Sept 2008

There are a few action items which I would like resolved by next Friday 12th September 2008

1. FMC Norway to get all contact details of sub vendor to in order to find out where the boards are as well who is responsible within the sub vendor company. FMC Norway to work to gain control of boards.
2. FMC Norway to review the cabinet procedure and come back with any additional comments
3. FMC Houston to put history of all the work which has been carried out with regards to the SPCU, including all the visits offshore, onshore at Westlake ACE as well as all the testing on the boards at FMC lab.
4. FMC Norway to review the fault xtree charts produced by Aneet Nehra and develop a fully decision xtree to ensure that all the components of the system has been considered in the decision tree.
5. Brain McIntosh to send minutes of the meeting of the 10th Sept, ensure the above action plan are addressed.

The following are the other few actions I capture that we need to address really quickly.

6. Brian McIntosh to include me in all correspondence to Norway FMC.
7. JJ Leal and Brain McIntosh to develop a program of communication for Aneet Nehra as Aneet is going to be in Norway next week until the 23rd Sept. The plan is for JJ and Brain to develop contact at FMC Norway for Aneet to get a better understanding of the Atlantis system, this including talking to the product group, DEA, DR, Emerson as well the software group.

Kind regards

Nita Oza
Atlantis Operations
Onshore Subsea Team Lead
Office: 281 366 3901
Cell:

From: McIntosh, Brian [Brian.McIntosh@fmcti.com]
Sent: Monday, September 22, 2008 9:35 AM
To: Oza, Nita; Fleming, Ray H
Subject: FW: BP atlantis TPU RCA

FYI

Best Regards,

Brian L. McIntosh P.E.

Topside Product Engineering Manager

Subsea Controls Business Unit

brian.mcintosh@fmcti.com

Phone: 281-591-4439

From: Akkoca, Abdullah
Sent: Monday, September 22, 2008 9:18 AM
To: McIntosh, Brian
Cc: Mostad, Geir; Eretveit, Ragnar; Nehra, Aneet; Stuestøl, Geir; Hystad, Bjarne; Kamau, Polycarp
Subject: BP atlantis TPU RCA

Brian,

The product group in Kongsberg conducted a whole day MRB session on the Atlantis TPU issue together with Aneet.

We had both hardware, software engineers available, and we also talked with Kamau Polycarp on the Atlantis Platform.

The summary of the findings and observations are listed below. We have also defined a list of action points that needs to be performed.

The information below is intended for FMC internal use and need to be processed before it is communicated to end customer.

Summary:

1) Atlantis SPCU has a thermostat that activates the FAN's (3 off: cabinet inlet, outlet and between the TEM racks). The default setting is 30 degree Celsius. The thermostat is placed in the upper level of the cabinets. In newer cabinets, the thermostat has been removed, and fans are running continuously.

2) Temperature in cabinet 1: The thermostat stopped working at some point in time, hence the fans have been running all the time since that incident.

3) Temperature in cabinet 2: The thermostat has been working. The fans have been turned on an off dependent of the ambient temperature inside the cabinet. On temperature is 30 degree Celsius.

4) Temperature in cabinet 3: The thermostat has been working. The fans have been turned on an off dependent of the ambient temperature inside the cabinet. On temperature is 30 degree Celsius. This cabinet has not been used for subsea lines, hence there have been no heat generation from the line transformers. This means that the fan has probably not been running at all. However, the TPU cards have been powered, and functionally running with more than a year with insufficient cooling.

5) All failing boards sent to Kongsberg have been installed in cabinet 3.

6) Information from offshore 22/9 regarding C2B2. TPU moved from C2 to C3. The fans were turned on, and the TPU card was working. Then the fans were stopped, and the TPU stopped working after 7 minutes.

Short term actions:

1) Make certain that all fans are running continuously in all three cabinets.
Responsible: FMCH(Polycarp Kamau).

2) Establish an overview of boards potentially affected by over temperature exposure. Time of exposure, and where they have been placed. Responsible : FMCH(TBD)

3) Based on the overview, and replacement schedule should be made.
Responsible: FMCH(TBD)

4) Check out the availability of new TPU boards.
Responsible : FMCK(Geir Mostad)

5) Kongsberg to send comments to existing fault tree document to FMC Houston.
Responsible : FMCK(Geir Mostad)

6) Root cause analysis from Emerson needs to be completed.
Responsible : FMCK(Geir Mostad)

Abdullah Akkoca

Engineering Responsible, Electrical Products Group

E:abdullah.akkoca@fks.fmcti.com | P: +47 3228 8049 |

From: Mostad, Geir
Sent: 22. september 2008 15:44
To: Akkoca, Abdullah
Subject: BP atlantis

From: Fleming, Ray H
Sent: Wednesday, September 24, 2008 3:08:40 PM
To: Kelly, William G
CC: Curran, Christopher J; Steel, William JM.; Courville, Jeffery J; Oza, Nita
Subject: Atlantis TEM SBC Issues

Bill,

Early indications from the Atlantis TEM Single Board Computer (SBC) root cause analysis is that the boards may have been exposed to high temperatures caused by a problem with the cabinet cooling fans. This is far from conclusive but I would recommend getting FMC to check the Thunder Horse TEM cabinets to ensure that the cooling system is working properly. Atlantis are currently implementing a temporary MOC to have the fans that are currently on temperature control to run continuously. You may want to review this MOC and consider implementing this on Thunder Horse.

Regards

Ray

From: Noe, Robert <Robert.Noe@fmcti.com>
Sent: Wednesday, October 22, 2008 6:18 PM
To: McIntosh, Brian <Brian.McIntosh@fmcti.com>; Akkoca, Abdullah <Abdullah.Akkoca@fks.fmcti.com>; Eretveit, Ragnar <Ragnar.Eretveit@fks.fmcti.com>; Berg, Johnny <Johnny.Berg@fks.fmcti.com>; Reiff, Greg <Gregory.Reiff@fmcti.com>; Woods, Matt <Matt.Woods@fmcti.com>; Oza, Nita <Nita.Oza@bp.com>; Fleming, Ray H <Ray.Fleming@bp.com>; Chan, Roy <Roy.Chan@bp.com>; Young, Brian J <Brian.J.Young@bp.com>; Leal, JJ (FMC) <JJ.Leal@fmcti.com>; Nehra, Aneet <Aneet.Nehra@fmcti.com>; Kamau, Polycarp <Polycarp.Kamau@fmcti.com>
Cc: Bradley, George <GEORGE.BRADLEY@fmcti.com>
Subject: RE: Telecon to discuss BP Atlantis communication failures
Attach: Copy of BP action log.10.21.xls; Decision Tree with Conditions of Satisfaction (ATLANTIS.ppt; SPCU Filter Pics.pdf

---

Here is the updated Action log from Tuesday's internal meeting for review during Thursday's all party meeting.

Also, see attached Decision Tree with conditions of Satisfaction. The earlier version attached to the workbook was not legible enough.

Note the addition of the filter photos taken during the PQ visit.

<<Copy of BP action log.10.21.xls>> <<Decision Tree with Conditions of Satisfaction (ATLANTIS.ppt>> <<SPCU Filter Pics.pdf>>

Regards,

Robert Noe

Project Manager - BP Atlantis

E: robert.noe@fmcti.com

P: +1.281.591.8074

FMC Technologies, Inc.

1777 Gears Road | Houston, TX | 77067 USA

Phone: +1.281.591.4000

www.fmctechnologies.com

-----Original Appointment-----
From: McIntosh, Brian
Sent: Friday, October 17, 2008 12:56 PM

To: McIntosh, Brian; Akkoca, Abdullah; Eretveit, Ragnar; Berg, Johnny; 'Mikal Løken'; Noe, Robert; Reiff, Greg; 'Heimlinger, Gerhard [NETPWR/EMBED/DE]'; 'Ingvild Johansen'; 'Mikal Løken'; 'Cota, Hector [NETPWR/EMBED/AZ]'; 'Olivares, Al [NETPWR/EMBED/AZ]'; Woods, Matt; 'McAlpin, Tim [NETPWR/EMBED/AZ]'; 'Oza, Nita'; 'Fleming, Ray H'; 'Chan, Roy'; 'Young, Brian J'; 'Burghardt, Jon'
Subject: Telecon to discuss BP Atlantis communication failures
When: Thursday, October 23, 2008 9:00 AM-10:00 AM (GMT-06:00) Central Time (US & Canada).
Where: Brian McIntosh's office
Importance: High

We will discuss status of this on-going effort.

International number - 832-445-2022

Local number - 866-255-7040

Conference code - 2815914071

Action Log

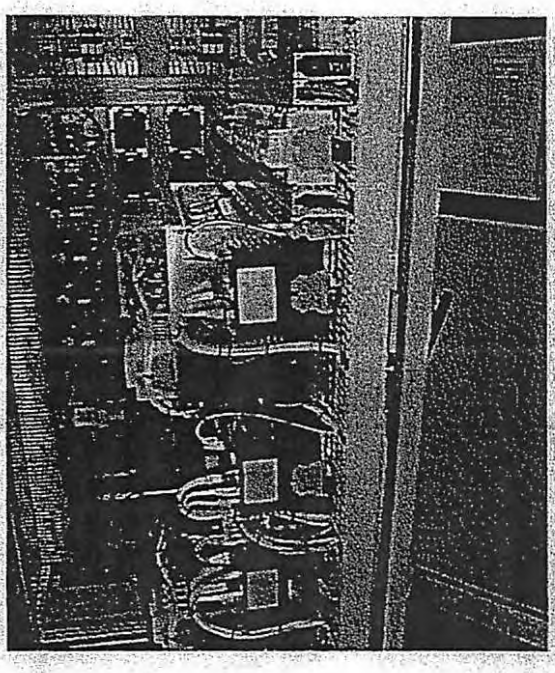
		Date	Actions	Responsible	Comments/Resolution	Due Date	Status
RCA	1	26-Aug-08	Contact Norway and obtain status of the current evaluation effort	Brian McIntosh			Done
	2	12-Aug-08	Determine who from BP should be included in the RCA team	Rick Bergan			Done
	3	12-Aug-08	What information to needed from the PO to aid in the RCA effort	Dale Furneaux			Done
	4	12-Aug-08	Contact FMC Norway to get technicians involved in evaluating the boards and participating in RCA	Brian McIntosh	Dale Lightfoot		Done
	5	22-Sep-08	FMC Norway to communicate to communicate to FMC Houston how and to who the remaining boards need to be sent for full analysis	Abdullah Akkoca	10/3 - Norway will send an email today (10/03/2008) with RMA number and mailing address 10/6 - PO (complete) and RMA # due today 10/8 to Kvikka analysis and RCA for 1st of 5 remaining board, board will depart HOU to Emerson TODAY. RMA to be issued for balance of boards (qty=4) TODAY, and will be sent soonest to Emerson. Pending detailed RCA instructions pending results of first board's RCA. 10/9 - Process Defined 3rd board reviewed by Emerson, final board shipments tracked in Item RCA-8 below		Done
	6	22-Sep-08	FMC Norway to follow up with Emerson to obtain full failure report of first 3 boards	Abdullah Akkoca	10/3 - failed boards sent to Emerson, processed and dispositioned (either repaired or discarded). Data Response and Emerson have confirmed that components for further investigation are no longer available. Revised RCA will need to be performed with returning boards being directed from FMC HOU to Emerson. 10/6 - Updates in above action. 10/9 - leave open looking for Emerson to confirm whether or not components and un-repairable board are still available, low probability. 10/10 - Provided Emerson team with RMA # 91073 and 91077 to aid in search. 10/10 - Closed - Data from repair/return reviewed and with current. Emerson team. Components scrapped and not avail for further investigation.	10-Oct	Done
	7	23-Sep-08	Root cause analysis from Emerson needs to be completed. (3rd Board sent to emerson)	Dale Furneaux	10/6 - update on previous 2 actions 10/9 - ongoing bit included in FMC Norway delayed report 10/16- Emerson authorized to begin RCA	24-Oct	In Process
	8	19-Sep-08	Send remaining four boards to Emerson directly	Brian McIntosh	10/3 - Boards to be sent 10/03/2008 10/6 - 1 board to be sent 10/6, balance of 4 boards, 10/7. 10/8 - RMA # still not available, headed ASAP, value in determining component level detail prior to initiating possible RCA. 10/15 - 1 x RMA provided for remaining (4) boards, awaiting individual RMA #'s 10/16 - RMA#9340 (will be used for boards 4-7, boards sent to Emerson 10/15 to arrive on 10/16	16-Oct	Done
	9	12-Sep-08	Consider inviting FMC personnel to Norway in the U.S	Al Leal	10/3 - Discussed this with CS engineering and Norway on 10/03/2008. CS will identify individual to participate in Kick-off meeting, (Anwar or Pradyot). 10/6 - Schedule by 10/14 10/13 - Contact made with Emerson Team, discussed requirements and Emerson Plan, face to face may not be required pending resolution to new Action RCA-15. 10/16 - Emerson authorized to begin RCA 10/21 - Hackinger required due to info provided and reviewed with Emerson	21-Oct	Done
	10	3-Oct-08	FMC Norway to produce a comprehensive RCA report containing the detailed Emerson data along with the BPCU cabinet evaluation	Abdullah Akkoca	10/6 - Update on 10/9 10/9- Will provide initial report based on all facts gathered to this point week of 10/13. this will be a WIP until all detailed Emerson data is available	Initially 10/17/Note	In Process
	11	3-Oct-08	Emerson lead for RCA to be available for on-going discussions / conference calls, kick-off meeting, and contact for FMC Sr Management.	Abdullah Akkoca	10/6 - FMC Norway informed by Emerson that they will provide the resources we need, should be available by COB 10/6 10/9 - updated by 10/10 - EMERSON EUPROPE CONTCT, Emerson UI contact to be? Gerhard Heilenkger Quality Manager EMEA and APAJ Embedded Computing Emerson Network Power P +49 89 9608 2354 F +49 89 9608 2363 M +49 172 8494034 Email Gerhard.Heilkinger@Emerson.com 10/15 - Added Emerson contacts Tim McAlpin - Emerson - Tempe, Services / Repair Hector Cota - Emerson - Tempe, Services / Repair Al Chrikes - Emerson - Tempe, Customer Quality	15-Oct	Done
	12	6-Oct-08	FMC Houston to see 7th board from PO in the same manner as previous 6 boards	FMC Houston	10/16 - reported by Brian McIntosh as complete	17-Oct	Done
	13	6-Oct-08	Ensure Polychargr's offshore report has been received by FMC Norway and clarify any questions. This will need to be incorporated into FMC Kongsberg final report	FMC Norway	to be integrated in detailed FMC Norway report 10/9- FMC to confirm receipt and request if not received	24-Oct	Done
	14	6-Oct-08	(2) and (new 1st) repaired board sent to CS to be held separately from the new boards	FMC Norway	10/9- repaired boards will not be put back in service due to possibility other components have been exposed to over temp conditions. Leave with Emerson, waiting further investigation	TBD	Hold Pending RCA
	15	15-Oct-08	Emerson to provide explanation of process and test plan prior to initiating detailed RCA for the 3rd board	Emerson	10/15 - Pending receipt of RCA items #16, 17, 18 10/15 - Auth Rec'd Email, initial investigation complete, FMC waiting completed Data RCA Items 15 - 21	24-Oct	In Process
	16	15-Oct-08	FMC Houston to send historical TPU and Cabinet spreadsheet to Emerson for reference, including data on 7th board recently tested at the Gears Road Facility	Brian McIntosh	10/16 - Complete - board data to Emerson as depicted in Cabinet #1 - #3 Tabs in this workbook	16-Oct	Done
	17	15-Oct-08	FMC Customer Support to send photos of SPCU and TPU configurations for reference	Al Leal	10/21 - Pictures are in as depicted in SPCU, Pictures Tab in this Workbook	21-Oct	Requirement Close
	18	15-Oct-08	To send report data to Emerson for each failed board (Offshore, Houston and Norway where available)	FMC Norway	10/16 - Confirmed request	20-Oct	Requirement Close
	19	16-Oct-08	Provide Emerson Data Log from Debug port from each board where available from offshore and Norway testing	FMC Norway	10/21 - sent to Emerson	22-Oct	Requirement Close
	20	16-Oct-08	Send Emerson Cabinet Specification Sheet	Brian McIntosh	10/21 - Provided to Emerson Technical Authority, Dale Furneaux	21-Oct	Done
Fault / Decision Tree	1	26-Aug-08	Contact Shalimar and find out when the next meeting of the RCA team is scheduled	Brian McIntosh			Done
	2	8-Aug-08	Develop a fault tree for the investigation of the root cause of the issue by 8/08/08	Dale Furneaux			Done
	3	12-Sep-08	FMC Norway to review the fault tree charts produced by Ansel Harris and develop a decision tree to ensure if all components of the system have been considered in the decision tree	Abdullah Akkoca	Fault Tree updated and provided in attached spreadsheet below "Fault Tree"		Done
	4	2-Sep-08	Brian McIntosh to send minutes of the Sept. 10th meeting and ensure that the above action plan is implemented	Brian McIntosh			Done
	5	5-Sep-08	Contact Harris to add comments to existing fault tree documents to FMC Houston.	Dale Mayfield	Complete, all corporated changes, available to review in progress RCA		Done
	6	23-Sep-08	Norway provides the final decision tree	Abdullah Akkoca	10/3 - Norway will provide a decision tree prior to BP meeting on 10/06/2008 10/6 - Initial Tree provided by Kongsberg, similar to fault tree reviewed with BP		Done
	7	19-Sep-08	Receive Decision Tree from Norway	Abdullah Akkoca	10/9 - Initial Tree provided by Kongsberg, similar to fault tree reviewed with BP		Done
	8	9-Oct-08	Present Norway decision tree to BP for review and incorporation of issues	Brian McIntosh	10/9 - Complete no further action required, entitled "Norway Decision Tree"		Done
	9	8-Oct-08	Provide Decision Tree Proving history with detailed conditions of satisfaction to be included in final reports to support recommendations and final actions	Robert Noe	10/9- revised action to have ready for review by BP and RCA team by 10/10. 10/15 - Sent to team for review to be open and comments are incorporated	24-Oct	

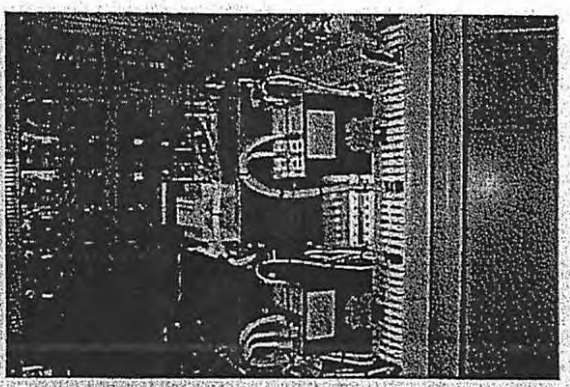
Action Log

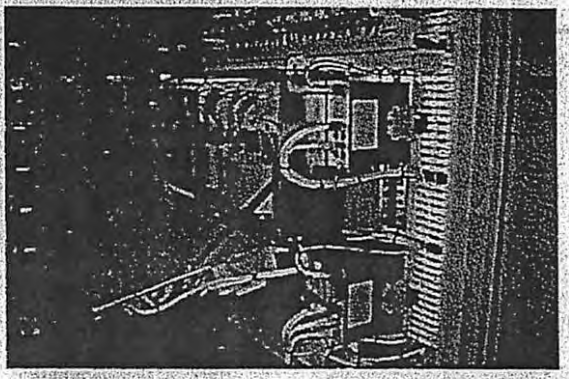
		Date	Action	Responsible	Comments/Resolution	Due Date	Status
Cabinet Investigation	1	6-Aug-08	What is the current topside system configuration? I.e. map of which units are being supported by which cabinet and slot	Nes Dza	10/8- will provide info example	17-Oct	Recommend Close
	2	12-Aug-08	Scope of work plan for PDQ and PD	Polycarp Kamau / Ameet Nehra	PQ Complete - PDQ work Schedule/letter of 10/07 - CS to inform PDQ via email of cabinet review of Fan configs and Thermostat settings. 10/21 - PDQ (Eric) [illegible] Work Sheets/letters. Report to be issued	27-Oct	In Process
	3	7-Aug-08	Contact Norway and obtain input as to what tests should be run offshore. This will be reviewed by Ray Chen	J J Law	Complete - Included in inspection procedure executed off-shore		Done
	4	7-Aug-08	Create a two phase evaluation plan with Norway	Brian McIntosh	Complete - test offshore FMC and [illegible] Kong plus a technical representation present via phone		Done
	5	10-Sep-08	JJ Law and Brian McIntosh to develop a program of communication for Ameet Nehra as he will be in Norway next [illegible] week until the 23rd of Sept. The plan is for JJ and Brian to develop format of FMC Norway for Ameet to get a better understanding of the Atlantis strategy. Will include visits to the product group, QA & QC, Engineering as well as the software group	J J Law				Done
	6	12-Sep-08	(NC) Norway to review the cabinet procedures and come back with any additional recommendations	Abdullah Akbaca			Done
	7	19-Sep-08	Phone contact with Ameet for Monitor before he returns from Norway	Brian McIntosh			Done
	8	19-Sep-08	Perform SPCU test offshore	Polycarp Kamau			Done
	9	22-Sep-08	Make certain all fans are running synchronously on all three cabinets	Polycarp Kamau			Done
	10	19-Sep-08	Obtain schematics of SPCU cabinets	Nes Dza	10/7 - JJ Law - Provided as built schematics which confirms the cards inspected on the PO 1 shows 3 fans in SPCU connected to thermostat		Done
	11	3-Oct-08	Determine MTBF for Fans currently configured to run 100%	Abdullah Akbaca	10/8- Information will be provided by end of the day 10/8. 10/9 - to be provided week of 10/13 and included in initial FMC Norway report 10/21 - Data available, to be included in the [illegible] report	13-Oct	In Process
	12	8-Oct-08	RFQ- reviewed "as built" schematic for Atlantis Cabinet fan configuration		included as worksheet in Action log	8-Oct	Done
	13	8-Oct-08	Provide explanation of filters and Thermostat configuration - included as worksheet as individual components in Inventory Clarification	Polycarp Kamau	10/9 - The cable "N1" is used to switch A or B power to the thermostat that monitors the [illegible]	21-Oct	Recommend Close
	14	8-Oct-08	Polycarp to provide pictures of all filters taken during offshore visit to be considered in report	Polycarp Kamau	to be provided in detailed FMC Norway report 10/21 - Fans in FMC Norway, included in 10/21 action log comp as attachment	21-Oct	Recommend Close
	15	8-Oct-08	Provide system design Basis compared to known environment	FMC Norway	to be provided in detailed FMC Norway report	17-Oct	Recommend
SPCU Historical Data	1	23-Sep-08	Provide copy of SN's / ON's written against Atlantes SPCU cabinets	Abdullah Akbaca / Brian McIntosh	10/3- Provided single ON for Cab 3, working to gather SN/ON's for all SPCU cabinets. 10/4- provide single ON to SP team for review 10/8 - Investigate ON's written by FMC Houston. 10/21 - FMC Norway to Provide Info to Brian McIntosh	21-Oct	In Process
	2	19-Sep-08	Obtain and investigate SN's / ON's on all SPCU Cabinets of this design including TH	Abdullah Akbaca	10/3- Provided single ON for Cab 3, working to gather SN/ON's for all SPCU cabinets	21-Oct	In Process
	3	19-Oct-08	Confirm Brand 18 TPU Board replacements and determine if meet or Atlantis issues	Abdullah Akbaca	10/15 - Reported verbally by SP 10/21 - PLMT / FMC - Modem Card failure, broken connection, coordinated with FMC Norway and Direct TB project team. NO impact on TPU	21-Oct	Recommend Close
TPU	1	6-Aug-08	Investigate the equipment evaluation and setup of a test rig for evaluating the board's and for future use as a personnel training device	Steve Cotton	[illegible]		Done
	2	6-Aug-08	FMC to evaluate and power up the four boards recently replaced offshore upon receipt	Dale Furneaux	[illegible]		Done
	3	6-Aug-08	What is the status of the boards sent into or going with FMC Norway	Erik Brand	[illegible]		Done
	4	12 Aug 08	How many Thunderhorse boards are not currently in use and could be utilized if need by Atlantis	Christopher Curran			
	5	23-Sep-08	Determine the availability of new boards	Geir Hestad	10/3 - informed there would be a 3 week lead time. Confirm and send written statement once verbal is done	21-Oct	In Process
	6	6-Oct-08	Determine what temp the TPU board will fail	FMC Norway	to be provided in detailed FMC Norway report	17-Oct	
	7	6-Oct-08	Provide detail on individual component ratings on TPU Board	FMC Norway	to be provided in detailed FMC Norway report	17-Oct	
	8	6-Oct-08	Provide explanation of relationship of component life when exposed to temps higher than specified range	FMC Norway	to be provided in detailed FMC Norway report	17-Oct	
	9	6-Oct-08	Perform testing in Houston (Steve Cotton) duplicate failure	FMC Houston	No defined Scope at this point, define later	TBD	
TPU Mapping	1	10-Sep-08	FMC Houston to pull history of all of the work which has been carried out with regards to the SPCU including all of the data officers, engineers at Westside ACE as well as looking at the source of FMC up	J J Law	10/3 - Brian and JJ to have updated for review during 10/8 meeting at Westside. 10/9 - ongoing verifying data and jobsites, Cabinets and TEM relationship with TPU's detail. 10/21 - Worked up base per Ameet's review and [illegible] TPU testing history has been distributed to all parties involved. Any Westside's ACE (people) not included in history involved, viewing Enterprise team is reading, hours, and performing report cards on boards with no success	21-Oct	Recommend Close
	2	19-Sep-08	Compile a history of the boards since Feb	Dale Furneaux	Included in Houston Spreadsheet Brian and JJ to finalize comment in separate activity		Done
	3	23-Sep-08	Establish an overview of boards potentially affected by over temperature exposure, time of exposure and where they were placed	J J Law	10/3 - Brian and JJ to have updated for review during 10/8 meeting at Westside. 10/9 - ongoing verifying data and jobsites, Cabinets and TEM relationship with TPU's detail. 10/21 - All boards not already exposed have been running for at least one year and are potentially affected by over temperature. All boards that have been swapped (at least the least one) have also been exposed to high temperature, but for a much shorter time period. Please see Cabinet Process spreadsheet to see which locations have which boards	21-Oct	Recommend Close
SW / Firmware	1	12-Aug-08	Firmware upgrade for Thunderhorse and Atlantis	Dale Furneaux	[illegible]		Done
	2	6-Oct-08	RFQ- Firmware revisions verified on all TPU boards		Completed and as expected		Done
	3	6-Oct-08	Provide reports provided to FMC Norway to evaluate bugs and results as to whether they could have contributed to communication errors	Polycarp Kamau	10/8- Polycarp has info and will forward to team. 10/9 - to be provided in detailed FMC Norway report 10/21 - [illegible] Dale Furneaux - Everything identified is [illegible] Statement by Software Section [illegible] Technically we do not have the [illegible] has the ability to [illegible] and then [illegible] application software. Rather [illegible] [illegible] load, then we can [illegible] our [illegible] [illegible] would be a [illegible] [illegible] they have [illegible] [illegible] With regards to temperature issues, it is [illegible] [illegible] software due to [illegible] hardware	21-Oct	In Process

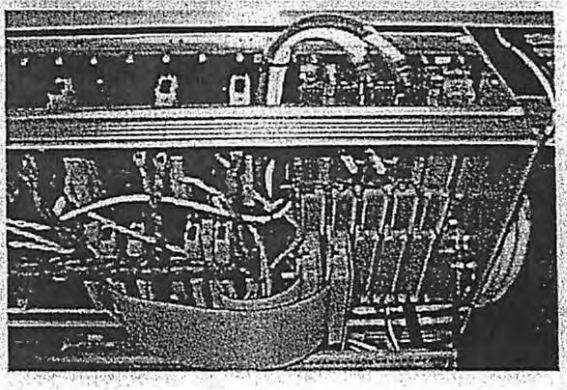
Action Log

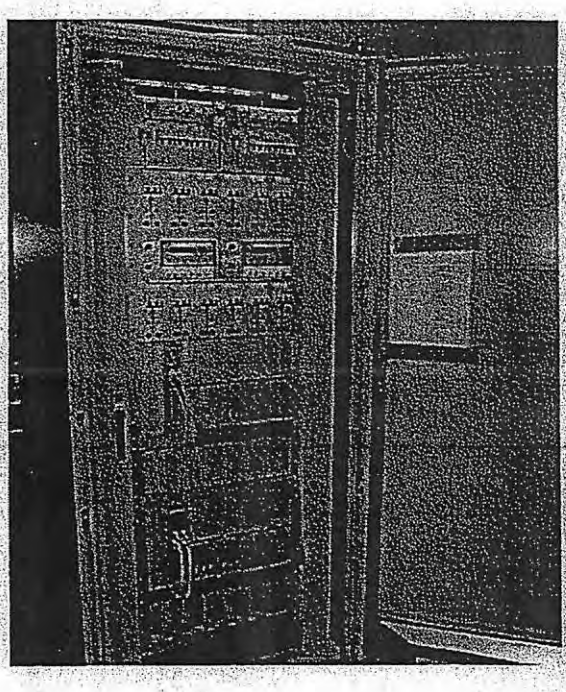
		Date	Action	Responsible	Comments/Resolution	Due Date	Status
General	1	[illegible]	FMC to provide weekly e-mail updates or establish weekly meetings to discuss cost [illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	2	6-Aug-08	Obtain engineering [illegible]	Brian McKeon			Done
	3	10-Sep-08	Brian McKeon to include Nils Dahl in all correspondence to FMC Norway	Brian McKeon			Done
	4	9-Sep-08	Change to A.M. session to incorporate Norway	Brian McKeon			Done
	5	6-Oct-08	Next Meeting Tuesday 9:00 a.m.	Brian McKeon	Conference and Invite CB / FMC Norway /	13-Oct	Done
	6	6-Oct-08	Coordinate meeting with SH (rep) at Thorp next week, ensure Emerson, Norway and Houston parties are up-to-date.	Brian McKeon	BP request from 1:00 meeting 10/16 Brian to send invite for Thursday at 9am Houston time. This was an agreed to time by Norway, Houston and Thorpe participants	16-Oct	Done
	7	10-Oct-08	SH next internal meeting FMC Houston, Norway and CB for Tuesday, 10/21	Brian McKeon		17-Oct	Done
	8	10-Oct-08	SH next ALL PARTY (Emerson and BP) meeting for Thursday, 10/23	Brian McKeon		17-Oct	Done

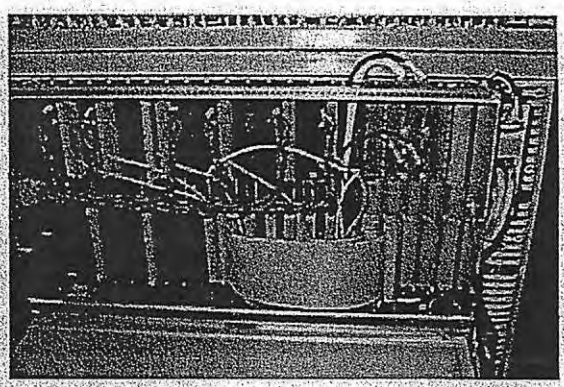


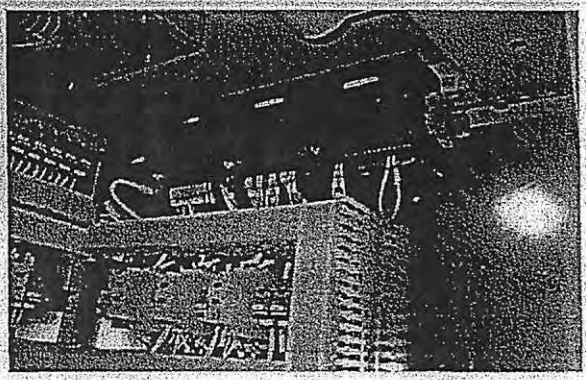


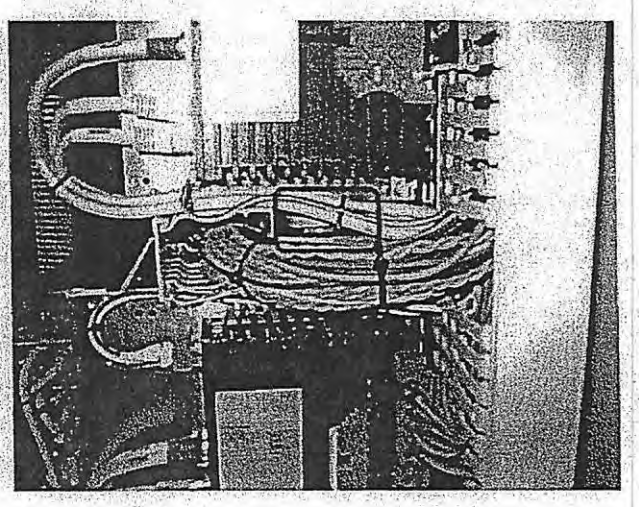


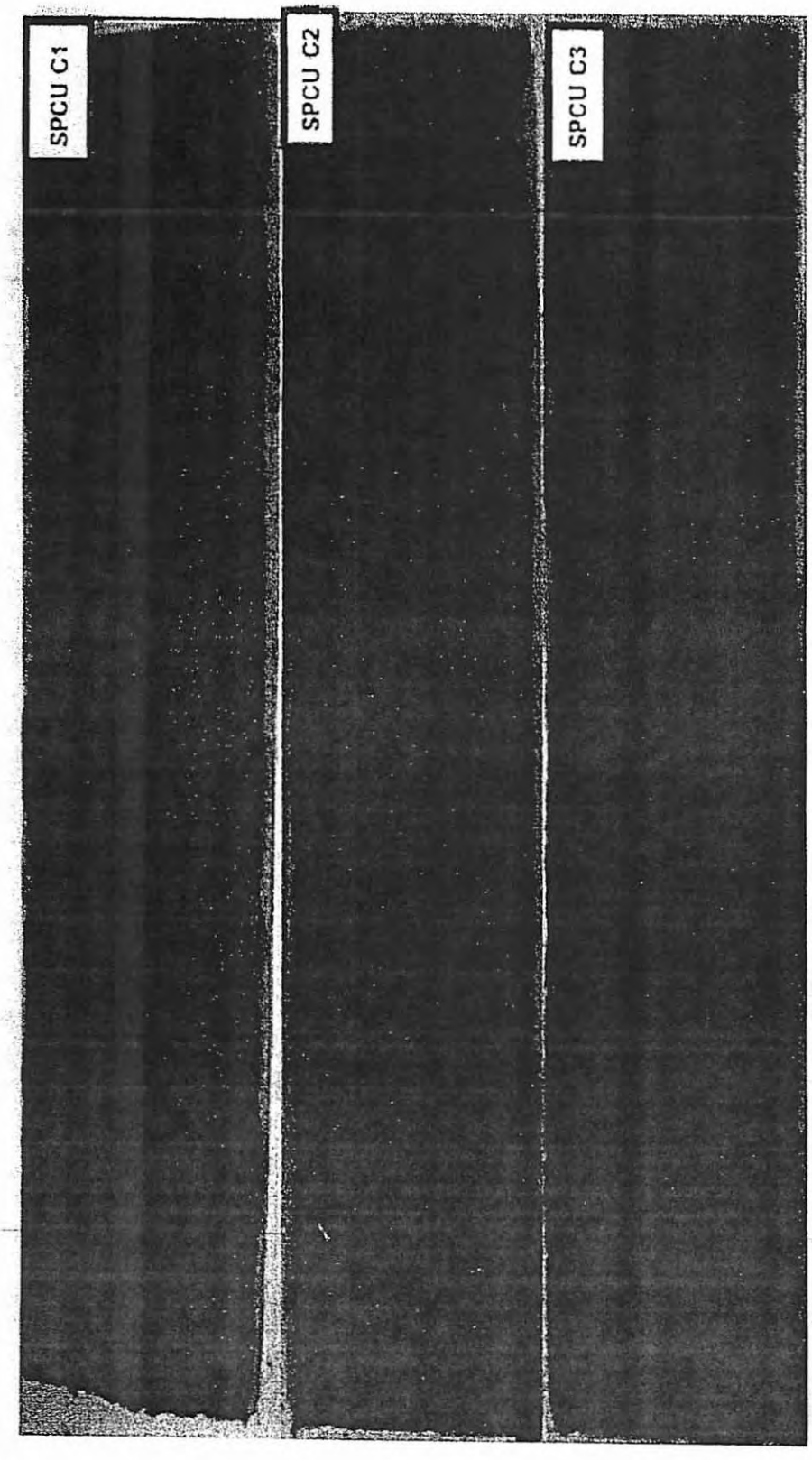










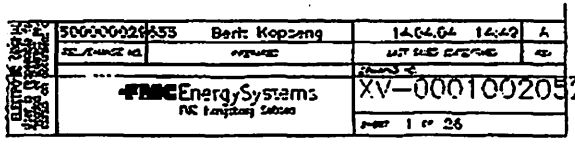


BPEP_ABB_03658749_EXCEL.xls "Filter Photos" Sheet

Exhibit 107
Part 10

Case 4:09-cv-01193 Document 343-16 Filed in TXSD on 04/04/12 Page 2 of 51

REDACTED



BPEP_ABB_03658749_EXCEL.xls "As Built Schem SPCU sht 1" Sheet

BPEP_ABB_03658749_EXCEL.xls "TPU Mapping" Sheet

BP Atlantis Equipment History

Single Board Computer	Board #1	Board #2	Board #3	Board #4	Board #5	Board #6	Board #7
Part Number	100036467	100036467	100036467	100036467	100036467	100036467	100036467
Serial Number	8218711	8218638	8218727	8218642	8218658	8218757	8358397
Firmware Revision	07A		07A	07A		07A	07B
Serial Card Serial Number	603923	603924	626236	626259	626262		
Serial Card FW Revision	C99104A	C99104A	C99104A	C99104A	C99104A	C99104A	C99104A
Ethernet Card Serial Number	081513003	081083025	081493137	081493142	081493136		
Ethernet Card FW Revision	A	A	A	A	A	A	A
First Location	Cabinet 1/Slot 1B	Cabinet 3/Slot 1A	Cabinet 2/Slot 1A	Cabinet 3/Slot 1B	Cabinet 3/Slot 2B	Cabinet 2/Slot 2B	Cabinet 1/Slot 1A
First Problem	Stopped Communicating	Functioned Properly	Stopped Communicating	Stopped Communicating	Stopped Communicating	TPU 2B dissapeared from the Smart Tool configuration. There was a complete loss of network connectivity to the board.	
Date of First Probem	06/27/2008	Unknown	07/29/2008	07/30/2008			
Second Location	FMC Houston	Cabinet 2/Slot 1B					
Second Problem	Performed Nominally	7/27/2008					
Date of Second Problem	6/30/2008						
Third Location							
Third Problem							
Date of Third Problem							
Notes	Returned to FMC Houston on 06/27/2008, tested on 06/03/2008 and functioned correctly.	Returned to Houston Sent to Norway, then to Data Respons At Emerson repair center on 09/12/2008 Repaired.	Board was re-seated in Cabinet 2/Slot 1A and it functioned correctly Currently in Houston	Returned to Houston	Sent to Norway then Data Respons. In route to Emerson 9/12/2008. Not repairable, discarded.	Currently in Houston	Currently in Houston

VME TPU Backplane

Part Number	10016336

Cabinet	Cabinet #1	Cabinet #2	Cabinet #3
Part Number	100034273	100034273	100034273
Serial Number	45046010-001	45046010-002	45046010-003
Tag Number	AT-CAB-J312	AT-CAB-J313	AT-CAB-J314

BPEP_ABB_03658749_EXCEL.xls "Cabinet #1" Sheet

Cabinet #1

Part Number	100034273
Serial Number	45046010-001
Tag Number	AT-CAB-J312

VME TPU Backplane

Part Number	10016336

TPU Boards — **MVME 2434**

	TEM A		TEM B	
	Slot 1	Slot 2	Slot 1	Slot 2
Part Number	100036467		100036467	
Serial Number	8358397		8218711	
Firmware Revision	07B		07A	
Serial Card Serial Number			603923	
Serial Card FW Revision	C99104A		C99104A	
Ethernet Card Serial Number			081513003	
Ethernet Card FW Revision	A		A	
Initial Location	Cabinet 1/TEM A/Slot 1		Cabinet 1/TEM B/Slot 1	
Initial observation			Stopped Communicating	
Initial Date	2/29/08		06/27/2008	
Second Location	FMC Houston/development lab		FMC Houston/development lab	
Second Observation	Booted correctly		No problem, functioned correctly	
Second Date	10/07/08		06/30/2008	
Third Location			N/A	
Third Observation			N/A	
Third Date			N/A	
Notes*	Currently in Houston		Returned to FMC Houston on 06/27/2008, tested on 06/30/2008 and functioned correctly.	

BPEP_ABB_03658749_EXCEL.xls "Cabinet #2" Sheet

Cabinet #2

Part Number	100034273
Serial Number	45046010-002
Tag Number	AT-CAB-J313

VME TPU Backplane

Part Number	10016336

TPU Boards	MVME 2434

	TEM A		TEM B	
	Slot 1	Slot 2	Slot 1	Slot 2
Part Number	100036467			100036467
Serial Number	8218727			8218757
Firmware Revision	07A			07A
Serial Card Serial Number	626236			
Serial Card FW Revision	C99104A			C99104A
Ethernet Card Serial Number	081493137			
Ethernet Card FW Revision	A			A
Initial Location	Cabinet 2/TEM A/Slot 1			Cabinet 2/TEM B/Slot 2
Initial observation	Stopped Communicating	Stopped Communicating		TPU 2B disappeared from the Smart Tool configuration. There was a complete loss of network connectivity to the board.
Initial Date	07/29/2008	7/27/08		
Second Location	FMC Houston/development lab			FMC Houston/development lab
Second Observation	Booted correctly			Would not boot
Second Date				10/07/08
Third Location				
Third Observation				
Third Date				
Notes*	Board was re-seated in Cabinet 2/TEM A/Slot 1 and it functioned correctly. Sent to Houston.			Board with product group

BPEP_ABB_03658749_EXCEL.xls "Cabinet #3" Sheet

Cabinet #3

Part Number	100034273
Serial Number	45046010-003
Tag Number	AT-CAB-J314

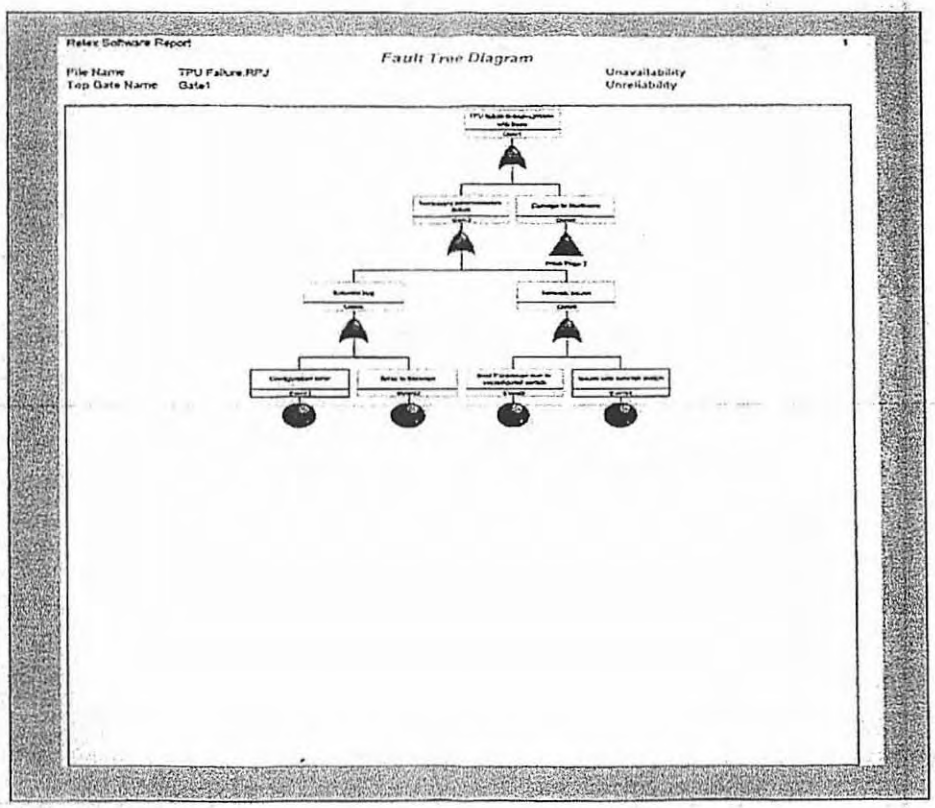
VME TPU Backplane

Part Number	10016336

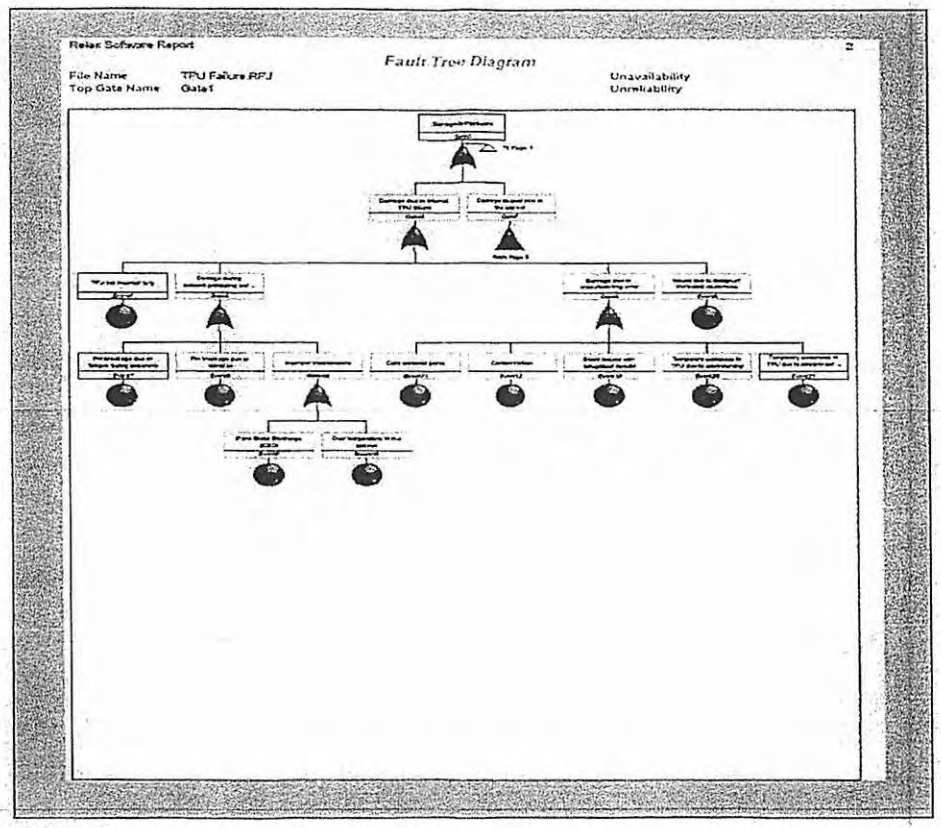
TPU Boards — **MVME 2434**

	TEM A		TEM B	
	Slot 1	Slot 2	Slot 1	Slot 2
Part Number	100036467		100036467	100036467
Serial Number	8218638		8218642	8218658
Firmware Revision			07A	
Serial Card Serial Number	603924		626259	626262
Serial Card FW Revision	C99104A		C99104A	C99104A
Ethernet Card Serial Number	081083025		081493142	081493136
Ethernet Card FW Revision	A		A	A
Initial Location	Cabinet 3/TEM A/Slot 1		Cabinet 3/TEM B/Slot 1	Cabinet 3/TEM B/Slot 2
Initial observation	Stopped Communicating		Stopped Communicating	Stopped Communicating
Initial Date	Unknown		07/30/2008	
Second Location	Cabinet 2/Slot 1B		FMC Houston/development lab	FMC Houston/development lab
Second Observation	Would not boot, CPU light was lit.		Would not boot, CPU light was lit.	Would not boot, CPU light was lit.
Second Date	7/27/2008			
Third Location	FMC Houston/development lab		Emerson	Emerson
Third Observation	Would not boot, CPU light was lit.			Not repairable
Third Date				
Notes*	Returned to Houston. Sent to Emerson arrived 9/1/08. Was repaired.		Returned to Houston. Tested here and failed. Sent to Emerson on 10/6/08	Sent to Houston and tested. Sent to emerson, was not repairable.

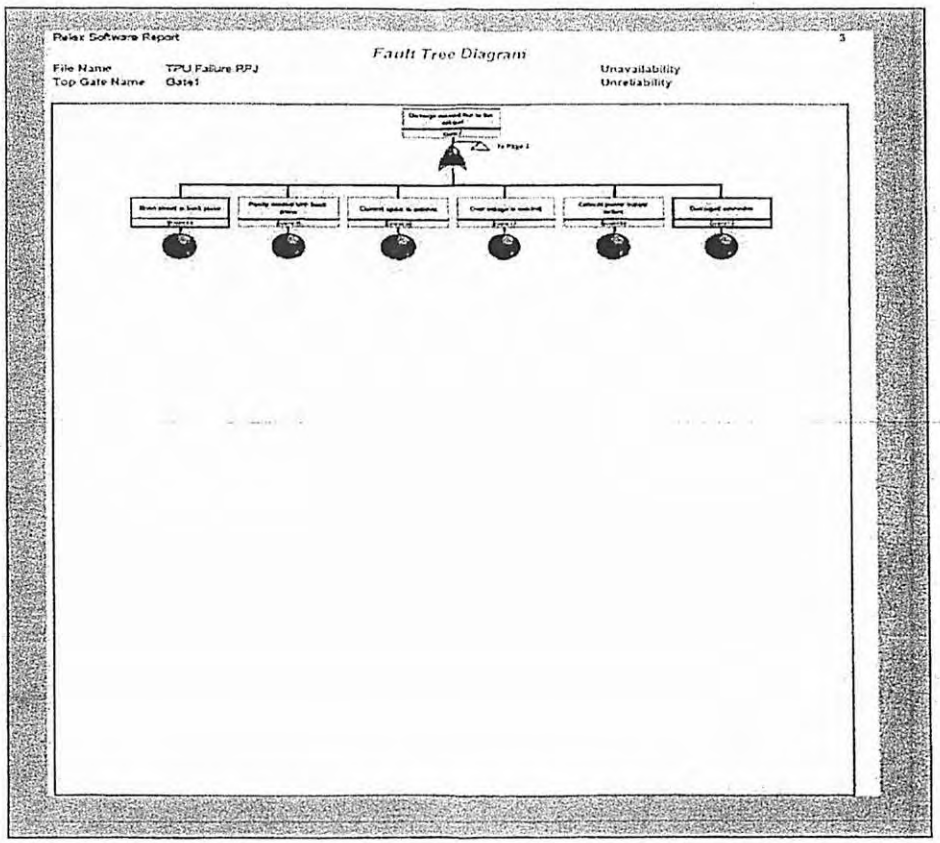
BPEP_ABB_03658749_EXCEL.xls "Fault Tree" Sheet



Case 4:09-cv-01193 Document 343-16 Filed in TXSD on 04/04/12 Page 7 of 51

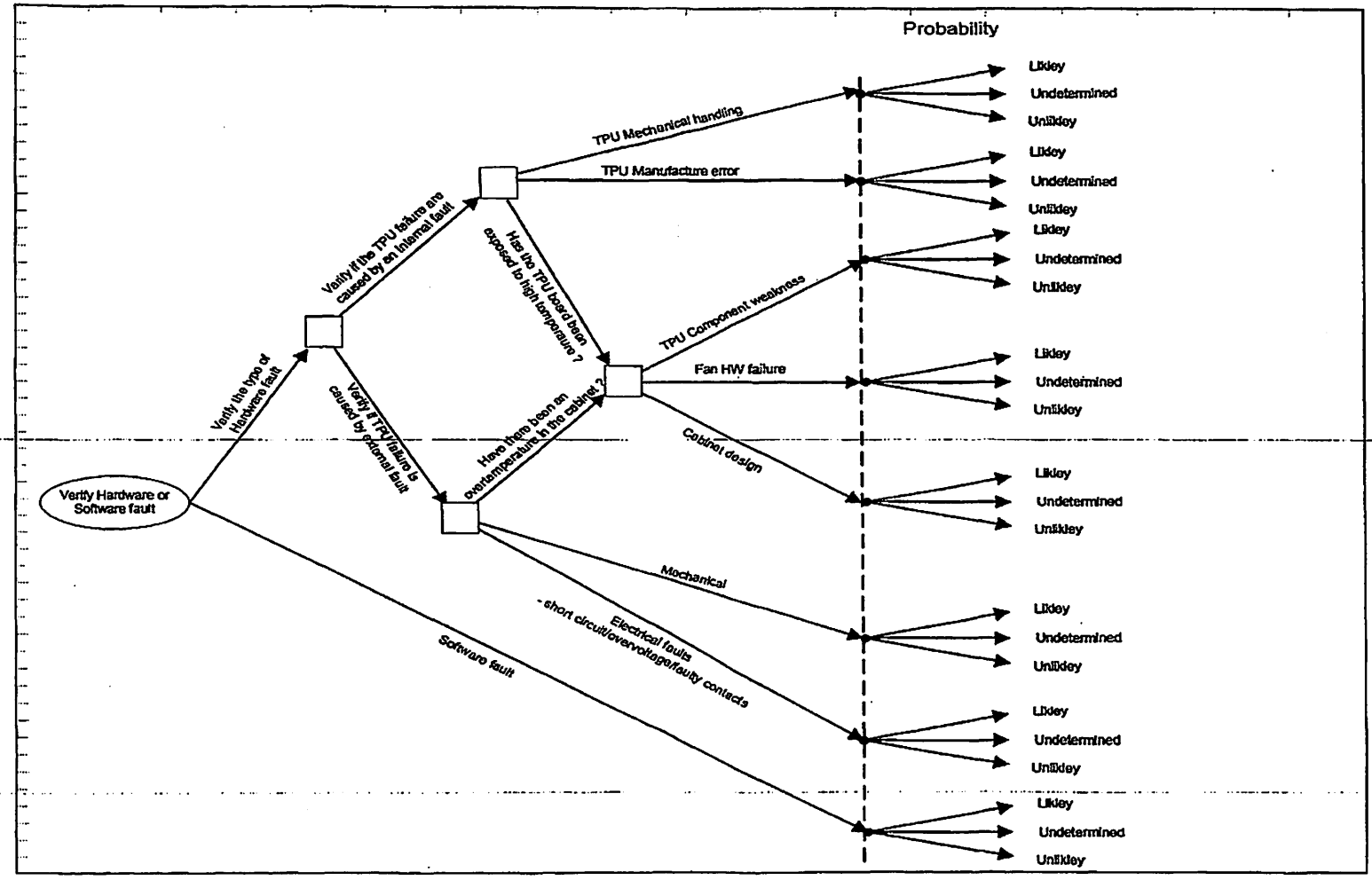


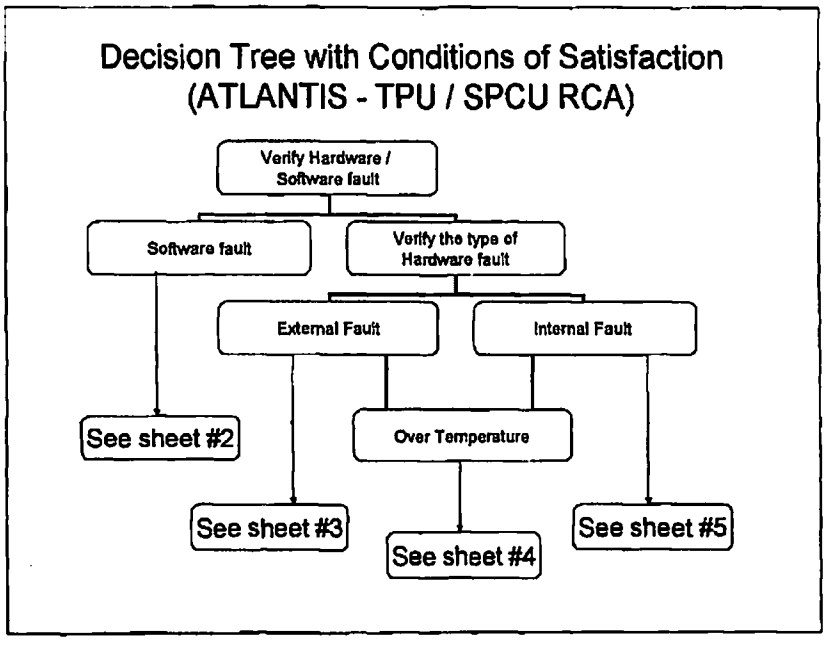
Case 4:09-cv-01193 Document 343-16 Filed in TXSD on 04/04/12 Page 8 of 51

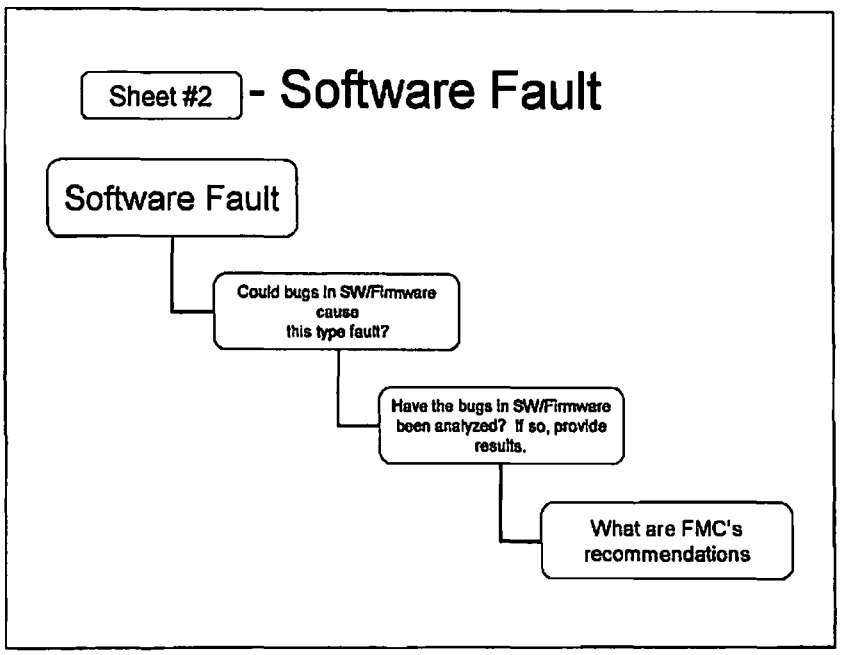


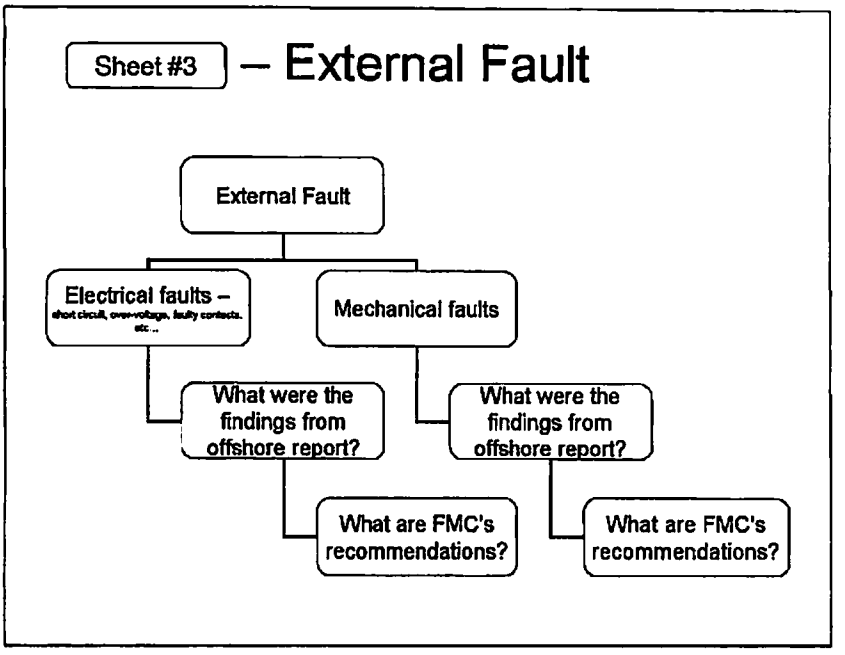
Case 4:09-cv-01193 Document 343-16 Filed in TXSD on 04/04/12 Page 9 of 51

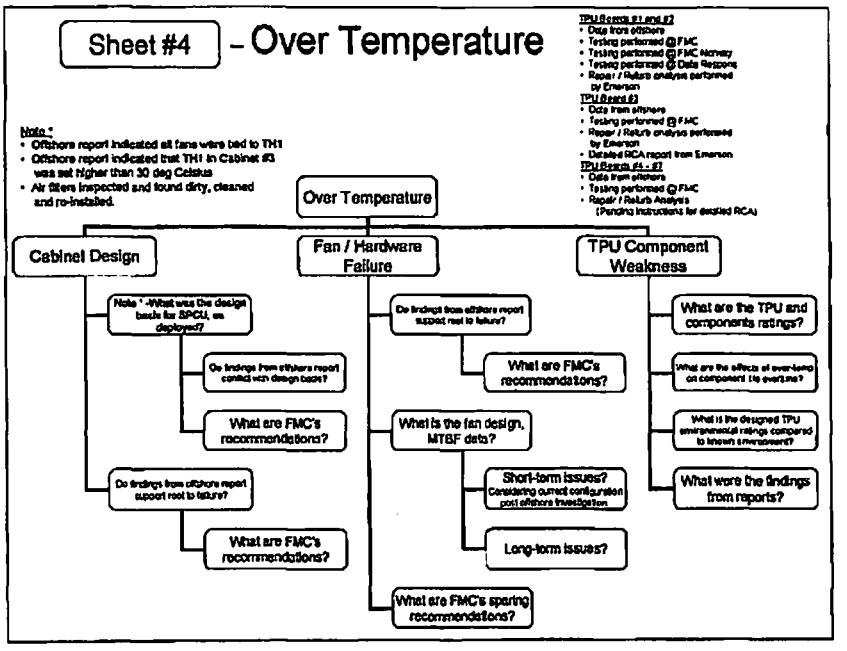
BPEP_ABB_03658749_EXCEL.xls "Norway Decision Tree"



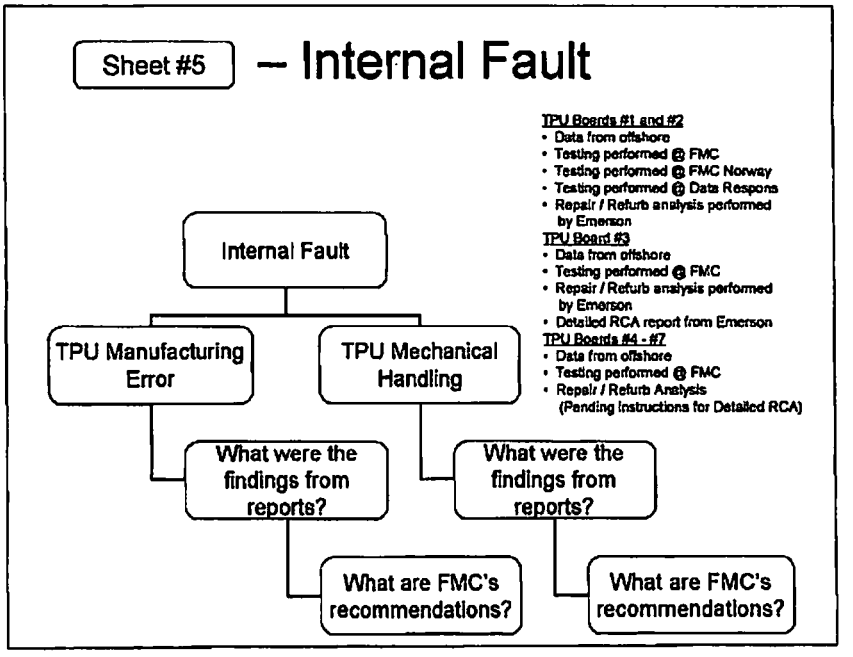

Decision Tree with Conditions of Satisfaction
(ATLANTIS - TPU / SPCU RCA)
Verify Hardware / Software fault
Software fault
Verify the type of Hardware fault
External Fault
Internal Fault
See sheet #2
Over Temperature
See sheet #3
See sheet #4
See sheet #5

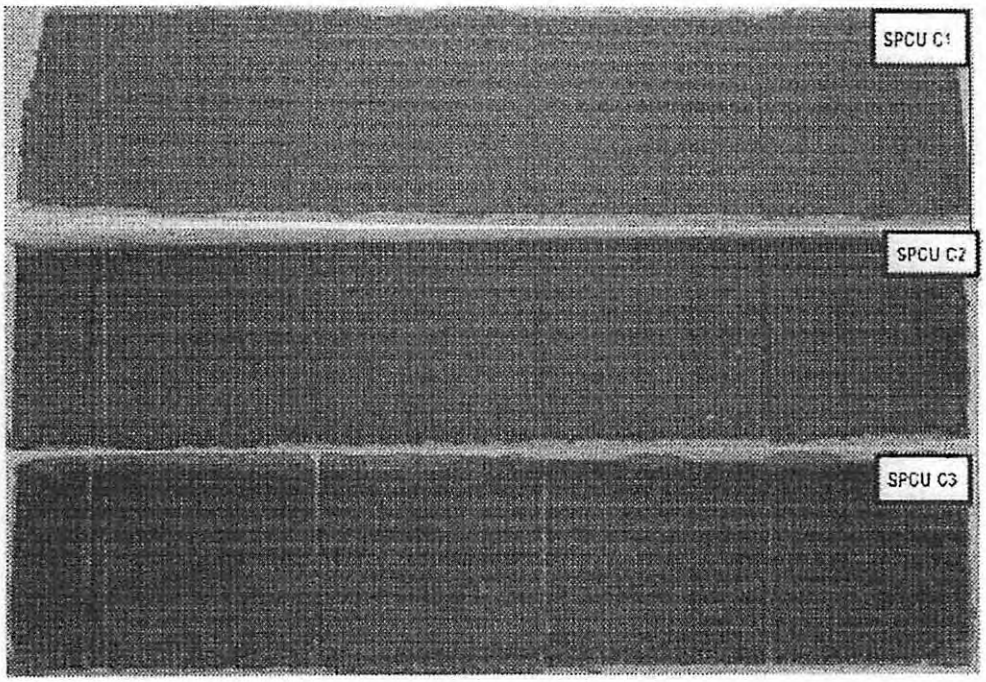

Sheet #2
- Software Fault
Software Fault
Could bugs in SW/Firmware cause this type fault?
Have the bugs in SW/Firmware been analyzed? If so, provide results.
What are FMC's recommendations


Sheet #3
– External Fault
External Fault
Electrical faults –
Mechanical faults
What were the findings from offshore report?
What were the findings from offshore report?
What are FMC's recommendations?
What are FMC's recommendations?


Sheet #4 – Over Temperature
Note *
• Offshore report indicated all fans were tied to TH1
• Offshore report indicated that TH1 in Cabinet #3 was set higher than 30 deg Celsius
• Air filters inspected and found dirty, cleaned and re-installed
Over Temperature
Cabinet Design
Fan / Hardware Failure
TPU Component Weakness
Note * -What was the design basis for EPCU, as deployed?
Do findings from offshore report conflict with design basis?
What are FMC's recommendations?
Do findings from offshore report support root to failure?
What are FMC's recommendations?
Do findings from offshore report support root to failure?
What are FMC's recommendations?
What is the fan design, MTBF data?
Short-term issues?
Considering current configuration post offshore investigation
Long-term issues?
What are FMC's sparing recommendations?
What are the TPU and components ratings?
What are the effects of over-temp on component life overtime?
What is the designed TPU environmental ratings compared to known environment?
What were the findings from reports?

Redacted


Sheet #5
– Internal Fault
TPU Boards #1 and #2
• Data from offshore
• Testing performed @ FMC
• Testing performed @ FMC Norway
• Testing performed @ Data Respons
• Repair / Refurb analysis performed by Emerson
TPU Board #3
• Data from offshore
• Testing performed @ FMC
• Repair / Refurb analysis performed by Emerson
• Detailed RCA report from Emerson
TPU Boards #4 - #7
• Data from offshore
• Testing performed @ FMC
• Repair / Refurb Analysis
(Pending Instructions for Detailed RCA)
Internal Fault
TPU Manufacturing Error
TPU Mechanical Handling
What were the findings from reports?
What were the findings from reports?
What are FMC's recommendations?
What are FMC's recommendations?


SPCU C1
SPCU C2
SPCU C3

From: Berger, Ron K (Manatee) <ron.berger@bp.com>
Sent: Wednesday, October 22, 2008 2:54 PM
To: Hui, Christopher <Christopher.Hui@bp.com>; Oza, Nita <Nita.Oza@bp.com>; Young, Brian J <Brian.J.Young@bp.com>
Subject: RE: SCSSV info

The 15,000 on 122 is a bogus number. We have transmitter problems in that scm. The 10,000 is the better number.

-----Original Message-----
From: Hui, Christopher
Sent: Wednesday, October 22, 2008 11:11 AM
To: Berger, Ron K (Manatee); Oza, Nita; Young, Brian J
Subject: SCSSV info

Trying to determine what the manufacturer recommended operating pressures are for all SCSSV's. In other words, what should the HPU pressure be set at to prevent SCSSV seal damage.

The worksheet #3-13 says "Critical Parameters: Maximum seal pressure 16,500psia." When I look at the trends, the max HPU supply pressures I see are 15,000 on DC122 and 10,000 on DC123. I'm assuming these are the pressures we need to look into and determine whether seal damage might have occurred? On another note, I found from doing the SOL's that the HPU has a 10,000psi max design so if 15,000 was supplied to DC122 there might be a problem there as well?

Do any of you know where I can find this information or a contact who can help me?

Thank you

-Chris

-----Original Message-----
From: Hui, Christopher
Sent: Wednesday, October 22, 2008 8:37 AM
To: Berger, Ron K (Manatee)
Cc: Oza, Nita
Subject: FW: 3478-ETR-2951 - IRM Plan Node 3 Subsea Production Controls

Ron, I'm going to need your assistance with this. See Nita's email below.

I have all the results printed out at my desk I'm just not sure how to analyze them

-----Original Message-----
From: Oza, Nita
Sent: Tuesday, October 21, 2008 9:20 AM
To: Hui, Christopher
Subject: FW: 3478-ETR-2951 - IRM Plan Node 3 Subsea Production Controls

Chris, I have put two PM results in the A:\Atlantis\OPERATIONS\Subsea\Subsea PM related actions

One is for the SCSSV and the associated worksheet 3-13 on the attached IRM is why we need to do the PM The second one is for LIM alarms and the associated worksheet 3-11.

I would like you chase up with Ron to find out whether the results from the PMs are within the allowable parameters. If they are, you

need to send a note to Elton Taylar for the SCSSV, and Dennis Thomas for the Lim Alarms. IF changes are required, we need to send them a note to for the change.. You will have ask Ron whether we need to do this with an MOC....

I'll call you later this afternoon, once I am at the airport.

Nita

-----Original Message-----
From: WBowens@technip.com [mailto:WBowens@technip.com] On Behalf Of Atlantisdocumentcontrol@technip.com
Sent: Monday, February 19, 2007 3:01 PM
To: RWeber@technip.com; RDeJong@technip.com; JaSutton@technip.com; Oza, Nita
Cc: JHults@technip.com
Subject: 3478-ETR-2951 - IRM Plan Node 3 Subsea Production Controls

Please find attached 3478-ETR-2951, for your information.

Thanks,

(See attached file: 3478-ETR-2951.zip)

MoC Safety Hazard Analysis and Operability Review Form

ATLANTIS	BP DEEP WATER DEVELOPMENT	Project No.	1440
MoC Title: Enhance Subsea Comms		MoC No:	GC787 08-218
		Rev. No:	0

Safety Hazard Analysis and Operability Review Checklist

MoCs that entail a modification or change to equipment, facilities, technology, or control system logic should be assessed to determine whether a Safety Hazard Analysis and Operability Review should be completed. The following questions should be used to determine whether such a review is needed:

Will any of the following occur?	**Yes**	**No**
1. A significant change to a controlled document, such as, PFDs, P&IDs, layout diagrams, logic diagrams or electrical one-line drawings, operating procedures, SAFE Charts, Safety Flow Diagrams?	☐	☒
2. Major engineering calculations?	☐	☒
3. A change to the environmental impact or the HSE Performance Agenda?	☐	☒
4. The substitution of a part, material or equipment of a different generic type than that which was originally installed OR the addition of a new part, new material or new equipment which did NOT previously exist?	☐	☒
5. The use or substitution of a chemical of a different generic type?	☐	☒
6. A philosophical, procedural or similar change in the flare, relief, emergency shutdown, or emergency blowdown systems?	☐	☒
7. A change to fabrication or installation procedures?	☐	☒
8. A change in process control or safety shutdown system instrumentation, philosophy or application software?	☒	☐
9. A departure from specifications, specified codes or standards?	☐	☒
10. A change to the fire and gas detection system?	☐	☒
11. A piping connection between different piping systems or pipe classes?	☐	☒
12. A change to the fire or explosion protection system or changes to safety features such as access or escape routes, warning signals, or fire-proofing?	☐	☒
13. A change in the Hazardous Area classification?	☐	☒

Answer "Yes" to any of the above, and a Safety Hazard Analysis and Operability Review is required.

MoC Safety Hazard Analysis and Operability Review Form

ATLANTIS	BP DEEP WATER DEVELOPMENT	Project No.	1440
MoC Title: Enhance Subsea Comms		MoC No:	GC787 08-218
		Rev. No:	0

Safety Hazard Analysis and Operability Review Required?	☒ YES ☐ NO If Yes, date completed:

Hazards & Operability Review Summary OR Statement of Outside Hazards Analysis Performed:

Attendees: Steve Cotton, Josh Little, Jim Ross, Elton Taylor, Craig Longlanies.

1. The addition of the Prosoft MVI status bits to the dual comms alarm will ensure that the system recognizes when communications are lost on both channels between the Honeywell system and the FMC system.

2. The addition of the dual comms updates to the graphics will make it easier for the operator to tell when comms are lost on both channels.

The intent of this MOC is to increase the visibility of dual comms loss and ensure that the hydraulic circuits are depressurized (dumped) if an ESD occurs when communications are down on both channels. The original dual communication loss trip did not account for topsides equipment failures in the link between the FMC equipment and the Rockwell (Prosoft MVI) equipment.

bp

MOC Reviews

MOC #: MOC-GC787-08-0218
Date Initiated: 10/22/2008
Initiated By: Cotton, Steve

Reviews Required	Responsible Person	Disposition		Completed By
Technical Review	Cotton, Steve	(•) Agree	( ) Disagree	Cotton, Steve
O&M Review	Atlantis Operations Su	(•) Agree	( ) Disagree	Gipson, Les
HSE Review	Atlantis Offshore HSE	(•) Agree	( ) Disagree	Cruse, Michael
Process Safety Review	Waterhouse, David	(•) Agree	( ) Disagree	Waterhouse, David
Weight Review	Atlantis Weight Revie	(•) Agree	( ) Disagree	Drennan, Doug
Facility Engineering Review	Ragan, Frank	(•) Agree	( ) Disagree	Ragan, Frank
		( ) Agree	( ) Disagree	
		( ) Agree	( ) Disagree	
		( ) Agree	( ) Disagree	
		( ) Agree	( ) Disagree	
Technical Authority Review (as needed)		( ) Agree	( ) Disagree	
Engineering Authority Review (as needed)		( ) Agree	( ) Disagree	

Does this change require a deviation from Technical Practices or Industry Standards ? ( ) Yes (•) No

Does this change require Technical Authority Review ? ( ) Yes (•) No

Does this change require Engineering Authority Review ? ( ) Yes (•) No

Does this change require any weight to be added or removed ? ( ) Yes (•) No

From: Cotton, Steven L
Sent: Tuesday, October 28, 2008 7:27 AM
To: Waterhouse, David (GVA Consultants)
Cc: Little, Joshua J; Ragan, Frank; Herrmann, Douglas T; Gipson, Les
Subject: Subsea Comms MOC-08-218 Hazard Review

Dave,

I'm planning an informal review for the subsea comms MOC. During several failures of the FMC equipment we encountered failure modes on the topside equipment that were not considered during the design. We are adding the topsides links into the "dual comms" alarm logic. When communications are lost to the subsea wells, the safety system can not send commands to close the wells so the SIS logic is setup to dump the topsides hydraulic circuits that feed the subsea wells ONLY if an ESD occurs when dual comms are lost. The loss of the dual links between the topsides SIS and FMCs topsides equipment was not part of the original design so it is now being added.

We're also adding alarm flags to each subsea well graphic to alert the operators of communications loss. This alarm is invisible during normal operations and only appears when comms are lost. It does not interfere with any controls so it will not introduce any operability issues.

Let me know if you see any issues with the hazard review. It is intended to be minimal and I'll add the names of the operators who discuss this with the automation specialist.

Atlantis hazard Review MOC 08-...

1440-20-IC-SP-SLC 218-1 Rev1 Su...

Steve Cotton
Control Systems Engineer
BP GOM Deepwater Production
281 366-0975 Office

MoC Safety Hazard Analysis and Operability Review Form

ATLANTIS	BP DEEP WATER DEVELOPMENT	Project No.	1440
MoC Title: Enhance Subsea Comms		MoC No:	GC787 08-218
		Rev. No:	0

Safety Hazard Analysis and Operability Review Checklist

MoCs that entail a modification or change to equipment, facilities, technology, or control system logic should be assessed to determine whether a Safety Hazard Analysis and Operability Review should be completed. The following questions should be used to determine whether such a review is needed:

Will any of the following occur?	Yes	No
1. A significant change to a controlled document, such as, PFDs, P&IDs, layout diagrams, logic diagrams or electrical one-line drawings, operating procedures, SAFE Charts, Safety Flow Diagrams?	☐	☒
2. Major engineering calculations?	☐	☒
3. A change to the environmental impact or the HSE Performance Agenda?	☐	☒
4. The substitution of a part, material or equipment of a different generic type than that which was originally installed OR the addition of a new part, new material or new equipment which did NOT previously exist?	☐	☒
5. The use or substitution of a chemical of a different generic type?	☐	☒
6. A philosophical, procedural or similar change in the flare, relief, emergency shutdown, or emergency blowdown systems?	☐	☒
7. A change to fabrication or installation procedures?	☐	☒
8. A change in process control or safety shutdown system instrumentation, philosophy or application software?	☒	☐
9. A departure from specifications, specified codes or standards?	☐	☒
10. A change to the fire and gas detection system?	☐	☒
11. A piping connection between different piping systems or pipe classes?	☐	☒
12. A change to the fire or explosion protection system or changes to safety features such as access or escape routes, warning signals, or fire-proofing?	☐	☒
13. A change in the Hazardous Area classification?	☐	☒

Answer "Yes" to any of the above, and a Safety Hazard Analysis and Operability Review is required.

MoC Safety Hazard Analysis and Operability Review Form

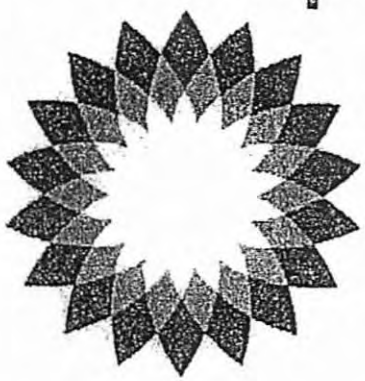
ATLANTIS	BP DEEP WATER DEVELOPMENT	Project No.	1440
MoC Title: Enhance Subsea Comms		MoC No:	GC787 08-218
		Rev. No:	0

Safety Hazard Analysis and Operability Review Required? ☒ YES ☐ NO If Yes, date completed:
Hazards & Operability Review Summary OR Statement of Outside Hazards Analysis Performed:
Attendees: Steve Cotton, Josh Little, Ops??

1. The addition of the Prosoft MVI status bits to the dual comms alarm will ensure that the system recognizes when communications are lost on both channels between the Honeywell system and the FMC system.

2. The addition of the dual comms updates to the graphics will make it easier for the operator to tell when comms are lost on both channels.

The intent of this MOC is to increase the visibility of dual comms loss and ensure that the hydraulic circuits are depressurized (dumped) if an ESD occurs when communications are down on both channels. The original dual communication loss trip did not account for topsides equipment failures in the link between the FMC equipment and the Rockwell (Prosoft MVI) equipment.



Gulf of Mexico
Deepwater – Atlantis PQ

Atlantis PQ
Subsea Comms Enhancements
Scope of Work

SPECIFICATION NUMBER: 1440-20-IC-SP-SLC218-1

REV	DATE	DOCUMENT STATUS	ORIGINATOR	CHECKED	APPROVED
1	10/28/08	Issued for Implementation	SLC		
A	09/09/08	For Internal Review	SLC		

Document Control Number	Job Number	Area/Unit Designation	Discipline Code	Document Type	Sequence Number	Document Revision
	1440	20	IC	SP	xx	A

TABLE OF CONTENTS

1.0 SUMMARY 3

2.0 WATCHDOG TIMER 3

3.0 DUAL COMMS LOSS ALARMS AND ESD SHUTDOWNS 4

4.0 SUBSEA GRAPHICS MODIFICATIONS 4

5.0 COMMS CHANNELS A AND B 5

6.0 TRAINING OPORTUNITY 6

1.0 SUMMARY

There have been a series of failures in the Topside Electronic Modules that resulted in loss of communications to the subsea wells. Most of the communication failures were a result of losing the Single Board Computers (SBC), and an analysis is being conducted to determine why these boards have been failing. The failure of these boards highlighted a deficiency in the interface between the subsea control system and the topside safety system which allowed the communication loss to go un-noticed several times and undetected by the system on at least one occasion. Additionally, we experienced a dual comms loss failure mode that was not considered in the safety system logic design. During a facility ESD, the system is designed to send valve closure commands to the subsea control modules and close the valves locally at the subsea tree. When both communication paths are lost (dual comms loss) the system is designed to dump the hydraulic circuit at the topsides unit during a facility ESD event, so it is critical that the system recognizes all failure modes of the dual comms loss event.

The intent of this set of enhancements is to ensure that the dual comms failures are detected, the comms failures are clear to the operator and that all safety shutdown actions are executed.

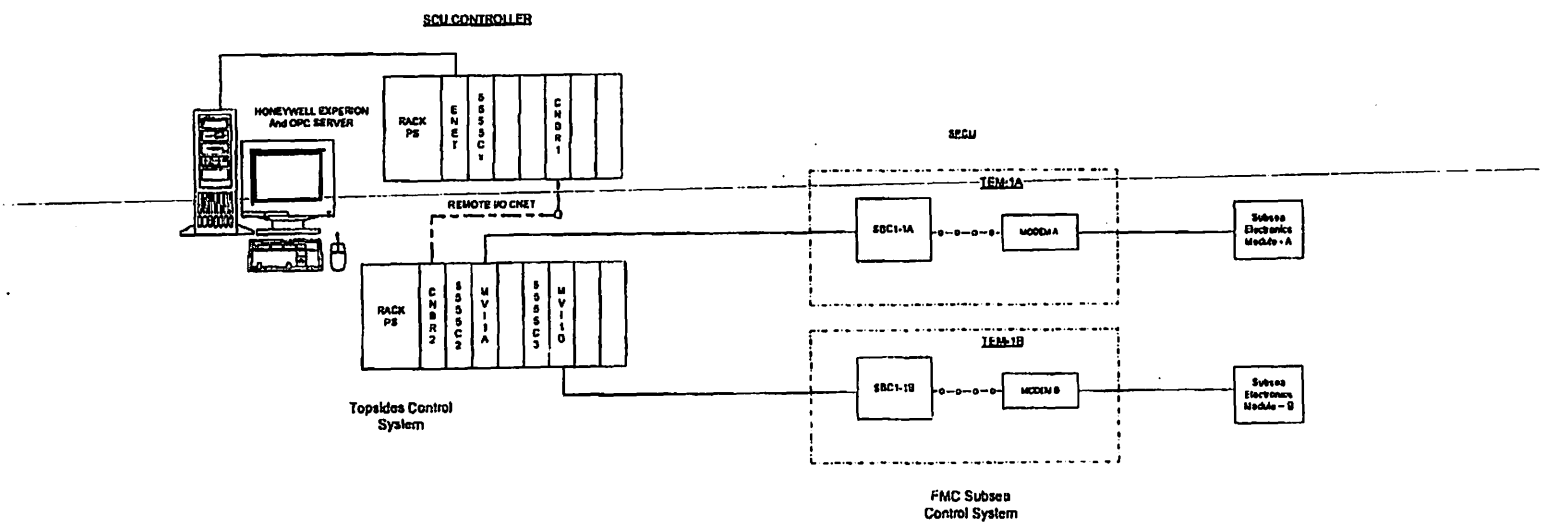


Figure 1
Simplified Diagram

2.0 WATCHDOG TIMER

The redundant communication path between the topsides Prosoft MVI comm cards and FMC's Single Board Computers is critical for monitoring and shutdown actions. This link is currently flagged as "bad" by an internal status bit generated by the topsides MVI card. This link has been fairly reliable but we

have experienced a failure mode in which the FMC Single Board Computer had failed and this status bit was still indicating an "OK" condition for the comm link.

To increase the probability of detecting this failure, we will implement an active watchdog timer system. The topsides control system will continually monitor a tag in the SBC that is known to be changing. This may be a clock timer or a tag that the topsides system is toggling then reading back. A comms failure alarm will be triggered if the tag value fails to change for more than 30 seconds.

3.0 DUAL COMMS LOSS ALARMS AND ESD SHUTDOWNS

The existing comms failure alarms rely on the FMC Single Board Computer to actively monitor the status of each well. If it detects a communication failure on any channel, it will flag that failure to the topside control system. It will individually flag each channel for each subsea well. The topside control system will then use these status flags\tags to determine if both channels to any individual well have failed. If so, this event will be classified as a dual comms loss to the particular well and an alarm will be raised in the control room to alert the operator that a total comms failure has occurred on the well. The safety system logic will then enable a permissive to dump the hydraulic supply circuit at the topsides in order to remove hydraulic pressure and close the tree valves in the event of a facility ESD. This is required since the subsea control system can no longer send commands to close the subsea valves locally at the tree. The subsea well is not automatically shut-in on a total loss of comms.

When any Single Board Computer fails, the topsides system will indicate a connection failure however, it can no longer determine the status of the comm alarms for the individual wells. The comm alarms remain in their last state even though we have lost comms due to the SBC failure. This is not a fail safe design so we are modifying the logic to include the loss of communications between the topsides system and FMC's Single Board Computers. If an SBC fails to communicate with the topsides control system due to a board failure or any other problem, the topsides control system will treat this as a loss of communications to all subsea wells that are controlled by that SBC. This will allow the safety system to enable a permissive to allow a facility ESD to dump the topside hydraulic circuits. It will also clearly flag loss of comms on the subsea operator graphics.

4.0 SUBSEA GRAPHICS MODIFICATIONS

When communications are lost to the subsea wells the existing graphics indicate the comms loss on the screen by turning a small LED indicator to a red color state and a text box will show "OFFNORMAL". The valve status and process readings remain in their last state with no visual indication that the readings are no longer updating.

We will add an alarm tag and text "COMMS LOSS" to each subsea well screen. The text will flash red when communications are lost on the active channel. The text will be invisible if communications are normal on the active channel. This will help ensure that the operator is aware that communications are down on the channel and the data is not valid.

The exiting "TEM dual comm" alarm will be modified to become a general "dual comm" loss alarm so that a failed SBC or link will activate this alarm and visual indicator. The TEM dual comms will also continue to activate this alarm.

REDACTED

5.0 COMMS CHANNELS A AND B

The communications are continually transmitted and received on both comm channels. The graphics only display the data from the currently selected channel. The data for both channels can be seen on the individual pop-up screens for each device. If one comms channel fails, the commands and shutdowns will still be sent on the good channel regardless of what comm channel is selected as active.

The choke commands are only sent on the currently selected channel.

The acoustic sand detectors are only read on the currently selected channel.

The system will not be modified to automatically switch to the other channel if the active channel fails however, an alarm tag will signal the operator that comms are lost as described in section 4.0.

6.0 TRAINING OPORTUNITY

The modifications will require assistance from FMC and the use of their equipment. It will also require a small test system to replicate the topside control system. With all of the equipment setup onshore and the modifications being implemented and tested, this would be an excellent opportunity to provide additional training and exposure for the offshore automation specialists.

The training would include:

- A refresher on the system layout and software configuration
- How to identify faulty SBCs and other components
- Swapping the Single Board Computers. Procedures will be developed and tested in the lab setup. Review details on how to swap modules then identify and download the correct configuration files from Smart Tool.
- Swapping the Prosoft MVI cards. Procedures will be developed and tested in the lab setup. Review details on how to swap cards then identify and download the correct configuration files using hyper-terminal.

BPEP_ABB_04136738

From: Young, Brian J <Brian.J.Young@bp.com>
Sent: Monday, November 3, 2008 8:07 AM
To: Noe, Robert <Robert.Noe@fmcti.com>; McIntosh, Brian <Brian.McIntosh@fmcti.com>
Cc: Oza, Nita <Nita.Oza@bp.com>; Chan, Roy <Roy.Chan@bp.com>; Fleming, Ray H <Ray.Fleming@bp.com>
Subject: Ambient Conditions in Generation Module

Brian / Robert,
The room containing the SPCU cabinets has the following characteristics:

- the relative humidity is between 38-39%
- the temperature was 70.5 F

thanks,

Brian

From: Noe, Robert [mailto:Robert.Noe@fmcti.com]
Sent: Wednesday, October 29, 2008 4:03 PM
To: McIntosh, Brian; Oza, Nita; Fleming, Ray H; Chan, Roy; Young, Brian J; Bradley, George; Olivares, Al [NETPWR/EMBED/AZ]; Mostad, Geir; Cota, Hector [NETPWR/EMBED/AZ]; Reiff, Greg; Woods, Matt; McAlpin, Tim [NETPWR/EMBED/AZ]; Leal, JJ (FMC); Kamau, Polycarp; Nehra, Aneet
Subject: RE: Telecon to discuss BP Atlantis Communication failures

Please find the attached Action log and other work book items. <<Copy of BP action log.10.28.xls>>

Items added for this update include;

- a TAB listing the ATLANTIS SN's
- Updated TPU mapping tab along with the related Cab #1 - #3 tabs. This has all additions/changes in RED. Note the recent handling and RCA activities are noted along with each board.
- An attachment to this email provided by Emerson for our review, it is titled the steps taken during RCA. <<Steps taken during RCA.DOC>>

We look forward to a productive call. Details below in Brian's notification email.

Regards,

Robert Noe

Project Manager - BP Atlantis

E: robert.noe@fmcti.com

P: +1.281.591.8074

M: +1.713.732.9906

FMC Technologies, Inc.

1777 Gears Road | Houston, TX | 77067 USA

Phone: +1.281.591.4000

www.fmctechnologies.com

-----Original Appointment-----
From: McIntosh, Brian
Sent: Monday, October 27, 2008 2:24 PM
To: McIntosh, Brian; 'Oza, Nita'; 'Fleming, Ray H'; 'Chan, Roy'; 'Young, Brian J'; Noe, Robert; Bradley, George; 'Olivares, Al [NETPWR/EMBED/AZ]'; 'Mikal Løken'; Mostad, Geir; 'Heimlinger, Gerhard [NETPWR/EMBED/DE]'; 'Cota, Hector [NETPWR/EMBED/AZ]'; Reiff, Greg; 'Heimlinger, Gerhard [NETPWR/EMBED/DE]'; 'Ingvild Johansen'; 'Mikal Løken'; Woods, Matt; 'McAlpin, Tim [NETPWR/EMBED/AZ]'
Subject: Telecon to discuss BP Atlantis Communication failures
When: Thursday, October 30, 2008 9:00 AM-10:00 AM (GMT-06:00) Central Time (US & Canada).
Where: Brian McIntosh's office (call in)
Importance: High

International Number-832-445-2022

Local Number-866-255-7040

Conference Code-2815914071

We will discuss status updates pertaining to the investigation.

From: Humphrey, Kathryn <humpk0@bp.com>
Sent: Thursday, November 6, 2008 4:43 PM
To: Angel, Keith F <keith.angel@bp.com>; Berger, Ron K (Manatee) <ron.berger@bp.com>; Oza, Nita <Nita.Oza@bp.com>; Young, Brian J <Brian.J.Young@bp.com>
Cc: Boston, Julius <Julius.Boston@bp.com>; Byrd, Wanda J <Wanda.Byrd@bp.com>; Carlson, Brian H <Brian.Carlson@bp.com>; Huebel, Ross <Ross.Huebel@bp.com>; Singh, Pramod K <Pramod.Singh@bp.com>
Subject: Re: DC123 Choke Problem

Keith - thx for writing this great summary. It looks like we have a bad choke in development. This is an example that should go into DWF (see Lior in the future). Kate

---
Sent using BlackBerry

----- Original Message -----
From: Angel, Keith F
To: Berger, Ron K (Manatee); Oza, Nita; Young, Brian J
Cc: Boston, Julius; Byrd, Wanda J; Carlson, Brian H; Huebel, Ross ; Humphrey, Kathryn
Sent: Thu Nov 06 20:46:37 2008
Subject: DC123 Choke Problem

We had trouble opening the DC123 subsea wellhead choke following this morning's unplanned platform shut down. Here are some quick highlights:

Time
08:13 DC123 choke only closed from 57.7% to 44.5% when it received PSD signal.
08:16 DC123 PIV closed and shut in well.
10:15 DC123 choke closed by operator.
12:15 DC123 choke opened by operator for USV test.
12:33 DC123 choke closed by operator after successful USV test.
12:39 Opened DC123 PMV which resulted in differential across choke.
12:40 DC123 choke would only open to 1.2% when attempting to restart well. Made several varied attempts to open choke without success.
12:50 Closed DC123 PIV while restarting DC124.
13:13 DC123 choke opened when commanded. Left DC123 choke at 2.5% and opened PIV to restart well. Did not experience any more problems with DC123 choke while ramping up well.

Thanks,
Keith

From: Abbott, Ken (SWIFT TECHNICAL SERVICES) <Ken.Abbott@bp.com>
Sent: Thursday, November 13, 2008 4:45 PM
To: Hughes, John D <john.hughes2@bp.com>; Schwebel, John <John.Schwebel@bp.com>; Weber, Rick G <Rick.Weber@bp.com>; Whitehead, David K (Technip) <David.Whitehead@bp.com>; Mack, John G <John.Mack@bp.com>
Cc: Broman, William H(HOU) <william.broman@bp.com>; Byrne, Derek (TURNER & TOWNSEND ENERGY) <Derek.byrne@bp.com>; Walsh, Jay (NES OVERSEAS USA LLC) <Jay.Walsh@bp.com>; Cavalier, Rebecca (Turner & Townsend) <Rebecca.Cavalier@bp.com>; Clark, Alan (Clover) <Alan.Clark@bp.com>; McGregor, Douglas (Turner & Townsend) <Douglas.McGregor@bp.com>; Malone, Ryan P <Ryan.Malone@bp.com>; Jondle, John J <john.jondle@bp.com>
Subject: FW: Gasket removal tools and spares for Atlantis - requisition coding error

Paul Edgner highlighted the following requisition error to me today. We had a recent incident of a wrongly coded requisition (see below email trail). It turns out that the requisition was not given to the cost engineer (as per the below process) for cost coding, but was entered incorrectly by the requisition engineer.

This error does happen occasionally, and we need to address the problem and resolve it to eliminate rework and change orders. The best solution is for the requisitioning engineer to always get with the cost engineer to ensure he has the right cost code.

-----Original Message-----
From: Clark, Alan (Clover)
Sent: Thursday, November 13, 2008 9:40 AM
To: Abbott, Ken (SWIFT TECHNICAL SERVICES); McGregor, Douglas (Turner & Townsend)
Subject: Gasket removal tools and spares for Atlantis

Ken / Doug.

Our discussion this morning refers : the outline requisition / procurement process Subsea should be following is :

- Responsible Engineer obtains quotes, completes review, recommends vendor...SCM sends out letter of intent
- Responsible Engineer or Budget Lead completes requisition draft, adds all appropriate support material and forwards to the Cost Eng to a) check against the budget and b) add PayKey and appropriate WBS code

- Requisition then forwarded to SCM for completion, DoA check, ensure all appropriate procurement and approval process is met and signatures applied

- Forwarded to TOI for execution followed by issue of the Release to the Vendor and copied to the Project / CE etc

This outline process ensures that
- 1. The technical and costing process is completed by the responsible engineer / budget holder
- 2. The DoA and approval process is complete and checked by SCM
- 3. The budget and cost control process is checked by Proj Servs.

Footnote :

To date we have dealt, in the main, with equipment procurement and the process has been relatively straightforward. As we move into the Installation phase the requisitions and resulting invoices will be allocated across multiple projects, will involve common elements and require clear level of progress / value reporting for trend / UAP purposes. In addition we will see increased levels of charges from BP logistics for supply vessels, heli and so forth which are difficult to control. These matters have not been addressed and have considerable ramifications to the WiP, accrual and reporting process if not rigidly controlled.

Alan

-----Original Message-----
From: Abbott, Ken (SWIFT TECHNICAL SERVICES)
Sent: Thursday, November 13, 2008 7:51 AM
To: McGregor, Douglas (Turner & Townsend); Clark, Alan (Clover)
Subject: FW: Gasket removal tools and spares for Atlantis

fyi - more info on the coding problem for our discussion - I want to check to see if our process is okay...

-----Original Message-----
From: Egner, Paul (EPCglobal)
Sent: Thursday, November 13, 2008 7:49 AM
To: Abbott, Ken (SWIFT TECHNICAL SERVICES)
Subject: FW: Gasket removal tools and spares for Atlantis

I have enclosed an executed copy of the Requisition That went through the system ..

Pretty much sums up the problem. Information coming from the leads is not correct.

Open for suggestions on how to get a double check going...

Paul Egner
Atlantis Subsea Projects
281.249.7696 Direct

Mailto: paul.egner@bp.com

-----Original Message-----
From: McGregor, Douglas (Turner & Townsend)
Sent: Wednesday, November 12, 2008 3:18 PM
To: Egner, Paul (EPCglobal); JEWilliams@technip.com
Cc: Cavalier, Rebecca (Turner & Townsend)
Subject: FW: Gasket removal tools and spares for Atlantis

I received this from Alan Clark recently and discovered the coding on the p.o. release is to a non-existent cost code for DC3. Should we correct this via change order to p.o. to provide the correct coding?

The coding should be to Z1-004PK-C:E:H:SC31A02 ROV Tools.

Regards,
Douglas McGregor
Cost Engineer
Atlantis North Flank

-----Original Message-----
From: Clark, Alan (Clover)
Sent: Tuesday, November 11, 2008 7:54 AM
To: McGregor, Douglas (Turner & Townsend); Cavalier, Rebecca (Turner & Townsend)

Subject: FW: Gasket removal tools and spares for Atlantis

This one's for DC-3.....

-----Original Message-----
From: JEWilliams@technip.com [mailto:JEWilliams@technip.com]
Sent: Tuesday, November 11, 2008 7:52 AM
To: aquinn@makodw.com
Cc: Clark, Alan (Clover); Egner, Paul (EPCglobal); daniel.guiterrez@bp.com
Subject: Gasket removal tools and spares for Atlantis

Andrew: advance PDF of PO BPO-08-03113 to cover the tools needed by BP Atlantis in accordance with your quote 10152 Rev C. Originals will be sent to you shortly. Please book the order and proceed. Any issues please advise.

Best Regards
Joe Williams
Project Procurement/Subcontracts for
BP Thunder Horse & Atlantis Subsea Projects
Pho: 281-249-7507
Fax:: 281-249-7686
email: jewilliams@technip.com

(See attached file: BPO-08-03113.pdf)

From: Angel, Keith F
Sent: Monday, November 17, 2008 3:04:38 PM
To: Schutte, Todd M
CC: Gipson, Les; Herrmann, Douglas T; Gardner, Alton P; Ross, Jim; Humphrey, Kathryn; Oza, Nita; Young, Brian J
Subject: PEI Action Item: DC123 Choke Problem

The problems we had recently with the DC123 choke are probably due to interference with the Fast Acting Module. As Brian points out in his e-mail below, we still need to change out the FAMs on 5 wells (DC114, DC122, DC123, DC124 and DC143). Since the production losses due to FAM problems has been very low, I recommend we continue to look for opportunities to change the FAMs when the wells are shut in for other reasons, such as the jumper tie ins.

Thanks,
Keith

From: Young, Brian J
Sent: Tuesday, November 11, 2008 1:12 PM
To: Angel, Keith F
Cc: Oza, Nita; Humphrey, Kathryn
Subject: RE: DC123 Choke Problem

Keith,

The trees with new FAM's are:
DC-111
DC-112
DC-113
DC-142
DC-121

We are planning to replace the rest of them (5 more), so that they will all have new FAM's. DC-123 and DC-143 are the FAM's that are giving indications that they will need to be changed out the soonest (i.e. Their FAM's aren't working consistently.). Our current position was that we would change them out on an opportunity basis. That is, only when a well was already shut-in and we had a window of opportunity to changeout the FAM. However it might be worth revisiting this. If we are losing production as a result of the "bad" FAM's (i.e. DC-123 on 11/6) then we can plan a well shutdown for 24 hours to changeout the FAM. I was hoping that we would be able to changeout a few of them during The Big Flush DC-142 tie-in, but resources were tied up and it was deemed too much of a SIMOPS risk with all the other work going on at the time. We can offer guidance on the risks, but we are relying on BMT input for production impact. Please let me know if you think this needs further discussion and I can setup a meeting.

Thanks,
Brian

From: Angel, Keith F
Sent: Monday, November 10, 2008 2:10 PM
To: Young, Brian J
Cc: Oza, Nita
Subject: RE: DC123 Choke Problem

Brian,

Can you remind me which wells have new FAMs and which wells need new FAMs?

Thanks,
Keith

From: Angel, Keith F
Sent: Thursday, November 06, 2008 2:47 PM
To: Berger, Ron K (Manatee); Oza, Nita; Young, Brian J
Cc: Boston, Julius; Byrd, Wanda J; Carlson, Brian H; Huebel, Ross ; Humphrey, Kathryn
Subject: DC123 Choke Problem

We had trouble opening the DC123 subsea wellhead choke following this morning's unplanned platform shut down. Here are some quick highlights:

Time
08:13 DC123 choke only closed from 57.7% to 44.5% when it received PSD signal.
08:16 DC123 PIV closed and shut in well.
10:15 DC123 choke closed by operator.
12:15 DC123 choke opened by operator for USV test.
12:33 DC123 choke closed by operator after successful USV test.
12:39 Opened DC123 PMV which resulted in differential across choke.
12:40 DC123 choke would only open to 1.2% when attempting to restart well. Made several varied attempts to open choke without success.
12:50 Closed DC123 PIV while restarting DC124.
13:13 DC123 choke opened when commanded. Left DC123 choke at 2.5% and opened PIV to restart well. Did not experience any more problems with DC123 choke while ramping up well.

Thanks,
Keith

From: Ragan, Frank
Sent: Wednesday, November 19, 2008 3:48:34 PM
To: Oza, Nita
CC: Young, Brian J; Berger, Ron K (Manatee); Dean, Wayne (TECHNIP); Sustala, Dennis R
Subject: RE: Well valve timing

That would be a great start.

Can we infer a timing for the SCSSV from the valve signatures?

Thanks,

Frank

From: Oza, Nita
Sent: Wednesday, November 19, 2008 2:47 PM
To: Ragan, Frank
Cc: Young, Brian J; Berger, Ron K (Manatee); Dean, Wayne (TECHNIP); Sustala, Dennis R
Subject: RE: Well valve timing

Frank, we do record all the valve open and closure timings which are on the tree, but have no way of visually verifying the timings for the SCSSV or the downhole flow control valves.

If you need the timings for the xtree, I can get that.

Nita

From: Ragan, Frank
Sent: Wednesday, November 19, 2008 2:11 PM
To: Oza, Nita
Cc: Young, Brian J; Berger, Ron K (Manatee); Dean, Wayne (TECHNIP); Sustala, Dennis R
Subject: Well valve timing

Nita,

In your commissioning work, do you keep a record of the valve closure times? Dennis Sustala has requested some information for the MMS, and I don't have a good source for the timing. Our historian is currently set to collect valve position every 30 seconds, and that doesn't provide a good picture of the valve closure times.

I have requested that those collection interval be incresed to once per second.

Thanks,

Frank

From: Berger, Ron K (Manatee)
Sent: Wednesday, November 19, 2008 4:02:56 PM
To: Ragan, Frank; Oza, Nita
CC: Young, Brian J
Subject: RE: Well valve timing

Checking the usv and scssv times is already in the esd test procedure. Have we asked ops for the times?

From: Ragan, Frank
Sent: Wednesday, November 19, 2008 2:49 PM
To: Oza, Nita
Cc: Young, Brian J; Berger, Ron K (Manatee); Dean, Wayne (TECHNIP); Sustala, Dennis R
Subject: RE: Well valve timing

That would be a great start.

Can we infer a timing for the SCSSV from the valve signatures?

Thanks,

Frank

From: Oza, Nita
Sent: Wednesday, November 19, 2008 2:47 PM
To: Ragan, Frank
Cc: Young, Brian J; Berger, Ron K (Manatee); Dean, Wayne (TECHNIP); Sustala, Dennis R
Subject: RE: Well valve timing

Frank, we do record all the valve open and closure timings which are on the tree, but have no way of visually verifying the timings for the SCSSV or the downhole flow control valves.

If you need the timings for the xtree, I can get that.

Nita

From: Ragan, Frank
Sent: Wednesday, November 19, 2008 2:11 PM
To: Oza, Nita
Cc: Young, Brian J; Berger, Ron K (Manatee); Dean, Wayne (TECHNIP); Sustala, Dennis R
Subject: Well valve timing

Nita,

In your commissioning work, do you keep a record of the valve closure times? Dennis Sustala has requested some information for the MMS, and I don't have a good source for the timing. Our historian is currently set to collect valve position every 30 seconds, and that doesn't provide a good picture of the valve closure times.

I have requested that those collection interval be incresed to once per second.

Thanks,

Frank

From: Noe, Robert <Robert.Noe@fmcti.com>
Sent: Wednesday, November 19, 2008 9:42 AM
To: Noe, Robert <Robert.Noe@fmcti.com>; McIntosh, Brian <Brian.McIntosh@fmcti.com>; Oza, Nita <Nita.Oza@bp.com>; Fleming, Ray H <Ray.Fleming@bp.com>; Chan, Roy <Roy.Chan@bp.com>; Young, Brian J <Brian.J.Young@bp.com>; Bradley, George <GEORGE.BRADLEY@fmcti.com>; Olivares, Al [NETPWR/EMBED/AZ] <Al.Olivares@Emerson.com>; Mostad, Geir <Geir.Mostad@fks.fmcti.com>; Cota, Hector [NETPWR/EMBED/AZ] <Hector.Cota@Emerson.com>; Reiff, Greg <Gregory.Reiff@fmcti.com>; Woods, Matt <Matt.Woods@fmcti.com>; McAlpin, Tim [NETPWR/EMBED/AZ] <Timothy.McAlpin@Emerson.com>; Leal, JJ (FMC) <JJ.Leal@fmcti.com>; Kamau, Polycarp <Polycarp.Kamau@fmcti.com>; Nehra, Aneet <Aneet.Nehra@fmcti.com>
Subject: RE: Telecon to discuss BP Atlantis Communication failures
Attach: Copy of BP action log 11 19.xls; SPCU 200_150 PN versus QN_SN.XLS; 500000059845 ECN update of SPC-0000023993 to revision B.PDF; 500000059845 ECN update of SPC-0000023993 to revision C.PDF; SPC-0000023993_RevC_Control system SW BP Altantis.pdf; ELD60008552.pdf; PRD-0000024233.pdf

---

In prep for our call on Thursday AM.

A few new items need to be tabled for discussion.

1) Will FMC be providing a maintenance procedure for the SPCU Cabinet. This should be able to be released before the conclusion of the RCA.

2) The question was asked offline if it would be possible to monitor the temp in the cabinet remotely (via HMI or Smart Tool)

3) We need a high level schedule from Emerson for the rest of this investigation ending with issue of report to FMC Norway.

Please find the attached updated Action log and TPU Mapping per latest update s from meetings and emails. Emerson updates are included in the TPU Mapping tab in the notes section.

<<Copy of BP action log 11 19.xls>>

A new tab has been added "SN Listing #2" which includes all SN's for the SPCU 200_150 design, please review and we can discuss on Thursday's all party call.

<<SPCU 200_150 PN versus QN_SN.XLS>>

The following PDF attachments have been provided for Firmware/SW action item #4b (Application SW)

<<500000059845 ECN update of SPC-0000023993 to revision B.PDF>> <<500000059845 ECN update of SPC-0000023993 to revision C.PDF>> <<SPC-0000023993_RevC_Control system SW BP Altantis.pdf>>

The following attachments are to address the testing performed on the mezzanine boards.

Briefly, DR does not perform any specific test on the additional mezzanine cards (See attached PDF documents).

However, the TPU cards see further testing during FMC system test.

Serial card:

GE Fanuc has confirmed that they can perform RCA, and it is GE Fanuc located in US that will perform a potential RCA.

<<ELD60008552.pdf>> <<PRD-0000024233.pdf>>

Regards,

Robert Noe

Project Manager - BP Atlantis

E: robert.noe@fmcti.com

P: +1.281.591.8074

FMC Technologies, Inc.

1777 Gears Road | Houston, TX | 77067 USA

Phone: +1.281.591.4000

www.fmctechnologies.com

From: Noe, Robert
Sent: Thursday, November 06, 2008 3:37 PM
To: Noe, Robert; McIntosh, Brian; 'Oza, Nita'; 'Fleming, Ray H'; 'Chan, Roy'; 'Young, Brian J'; Bradley, George; 'Olivares, Al [NETPWR/EMBED/AZ]'; Mostad, Geir; 'Cota, Hector [NETPWR/EMBED/AZ]'; Reiff, Greg; Woods, Matt; 'McAlpin, Tim [NETPWR/EMBED/AZ]'; Leal, JJ; Kamau, Polycarp; Nehra, Aneet
Subject: RE: Telecon to discuss BP Atlantis Communication failures

<< File: Copy of BP action log.11.6.xls >> << File: RPT60044087.pdf >>

Please find the attached updated log per today's conference call.

Please review updates and be prepared to provide your deliverable per the most recent commitment dates captured within.

Also find the initial draft report provided by FMC Norway, please understand this is a work in progress and will not be released formally until all of the info is available.

Here are some comments forwarded from FMC CS.

- Page 3 (Section 1.0): A summary has to be added
- Page 5 (Section 5.1): Are we leaving the red comments on the document?
- Page 5 (Section 5.1): Board # 7, we do not think this is correct. We have removed 3 boards from Cabinet # 2

(1A, 1B and 2B) and # 3 (1A, 1B, 2B) and only 1 for Cabinet # 1 (1A). We have not replaced boards on Cabinet # 1 slot 1B. The section 4.0 is correct with the exception of board # 7 being the first board that we replaced.

Regards,

Robert Noe

Project Manager - BP Atlantis

E: robert.noe@fmcti.com

P: +1.281.591.8074

FMC Technologies, Inc.

1777 Gears Road | Houston, TX | 77067 USA

Phone: +1.281.591.4000

www.fmctechnologies.com

From: Noe, Robert
Sent: Monday, November 03, 2008 11:28 AM
To: Noe, Robert; McIntosh, Brian; 'Oza, Nita'; 'Fleming, Ray H'; 'Chan, Roy'; 'Young, Brian J'; Bradley, George; 'Olivares, Al [NETPWR/EMBED/AZ]'; Mostad, Geir; 'Cota, Hector [NETPWR/EMBED/AZ]'; Reiff, Greg; Woods, Matt; 'McAlpin, Tim [NETPWR/EMBED/AZ]'; Leal, JJ; Kamau, Polycarp; Nehra, Aneet
Subject: RE: Telecon to discuss BP Atlantis Communication failures

Please find the attached updated actions per our last "All Party" conference call, held 10/30. << File: Copy of BP action log.11.3.xls >>

Please be prepared to review the action in our internal call on Tuesday morning at 8AM HOU time. (Note: we have just had our fall time change)

FMC Norway –

1) Please be ready to review the additional comment to the Emerson Detailed RCA memo.

2) Please obtain report from Emerson to capture data and status for each of the boards currently in process.

3) Please provide an update from Data Respons in regards to the Mezzanine boards.

4) Update on SN's/ QN's report will be avail.

5) Provide board replacement availability, breakdown by mode.

FMC Houston –

1) Be prepared to provide feedback on the Norway initial report, forwarded on 10/30.

2) Schedule this weeks meetings – Brian McIntosh

Emerson –

1) Please provide an initial report capturing data and status to date for the boards you have been working with (#3 and 4-7), you need to work with FMC Norway on the format, etc...

Regards,

Robert Noe

Project Manager - BP Atlantis

E: robert.noe@fmcti.com

P: +1.281.591.8074

FMC Technologies, Inc.

1777 Gears Road | Houston, TX | 77067 USA

Phone: +1.281.591.4000

www.fmctechnologies.com

From: Noe, Robert
Sent: Wednesday, October 29, 2008 4:03 PM
To: McIntosh, Brian; 'Oza, Nita'; 'Fleming, Ray H'; 'Chan, Roy'; 'Young, Brian J'; Bradley, George; 'Olivares, Al [NETPWR/EMBED/AZ]'; Mostad, Geir; 'Cota, Hector [NETPWR/EMBED/AZ]'; Reiff, Greg; Woods, Matt; 'McAlpin, Tim [NETPWR/EMBED/AZ]'; Leal, JJ; Kamau, Polycarp; Nehra, Aneet
Subject: RE: Telecon to discuss BP Atlantis Communication failures

Please find the attached Action log and other work book items. << File: Copy of BP action log.10.28.xls >>

Items added for this update include;

- a TAB listing the ATLANTIS SN's

- Updated TPU mapping tab along with the related Cab #1 - #3 tabs. This has all additions/changes in RED. Note the recent handling and RCA activities are noted along with each board.

- An attachment to this email provided by Emerson for our review, it is titled the steps taken during RCA. << File: Steps taken during RCA.DOC >>

We look forward to a productive call. Details below in Brian's notification email.

Regards,

Robert Noe

Project Manager - BP Atlantis

E: robert.noe@fmcti.com

P: +1.281.591.8074

FMC Technologies, Inc.

1777 Gears Road | Houston, TX | 77067 USA

Phone: +1.281.591.4000

www.fmctechnologies.com

-----Original Appointment-----
From: McIntosh, Brian
Sent: Monday, October 27, 2008 2:24 PM
To: McIntosh, Brian; 'Oza, Nita'; 'Fleming, Ray H'; 'Chan, Roy'; 'Young, Brian J'; Noe, Robert; Bradley, George; 'Olivares, Al [NETPWR/EMBED/AZ]'; 'Mikal Løken'; Mostad, Geir; 'Heimlinger, Gerhard [NETPWR/EMBED/DE]'; 'Cota, Hector [NETPWR/EMBED/AZ]'; Reiff, Greg; 'Heimlinger, Gerhard [NETPWR/EMBED/DE]'; 'Ingvild Johansen'; 'Mikal Løken'; Woods, Matt; 'McAlpin, Tim [NETPWR/EMBED/AZ]'
Subject: Telecon to discuss BP Atlantis Communication failures
When: Thursday, October 30, 2008 9:00 AM-10:00 AM (GMT-06:00) Central Time (US & Canada).
Where: Brian McIntosh's office (call in)
Importance: High

International Number-832-445-2022

Local Number-866-255-7040

Conference Code-2815914071

We will discuss status updates pertaining to the investigation.

BPEP_ABB_03665281_EXCEL.xls - "Actions" Sheet

Action Log

		Date	Action	Responsible	Comments/Resolution	Due Date	Status
	7	23-Sep-08	Root cause analysis from Emerson needs to be completed. (3rd Board sent to emerson)	Geir Mostad	10/6 - update in previous 2 actions. 10/9 - ongoing bil included in FMC Norway detailed report 10/16- Emerson authorized to begin RCA. 10/23 - Confirmed failure, installed debug connector, identified comm failures with CPU. Received boards 4-7 10/22, will move forward in same fasion with these boards to to look for common failure mode before disassembling any of the boards. Should expect an interim update before next Thursday meeting. 10/30 - Boards 4-7 failure not same as #3, failure only duplicated with mezzanine boards installed, ongoing testing in chambers at upper spec range 120 deg F - reiterated the need for an interim report from emerson. 11/6 - See TPU Mapping tab for updated info. EMERSON to use this format to keep team updated	on going	In Process
	10	3-Oct-08	FMC Norway to produce a comprehensive RCA report containing the detailed Emerson data along with the SPCU cabinet evaluation.	Abdullah Akkoca	10/3 - Update on 10/8 10/8- Will provide initial report based on all facts gathered to this point week of 10/13, this will be a WIP until all detailed Emerson data is available. 10/23 - Norway confirmed initial report would be available to review internally on 10/28, during the internal conference call. 10/28 - Initial report to be forwarded to Team for review. 10/30 - Initial report forwarded for internal review, target sending to BP following our Tue 11/4 meeting. 11/6 - Internal ongoing review, team OK with forwarding to BP for informal review and comment. Will not be released and transmitted until final report is available.	(initial) 10/28/2008 complete On-going	In Process
RCA	14	6-Oct-08	ID and have 1st repaired board sent to CS to be held separately from the new boards	FMC Norway	10/9- repaired boards will not be put back in service due to possibility other components have been exposed to over temp conditions. Leave with Emerson, waiting further instruction.	TBD	Hold Pending RCA
	15	15-Oct-08	Emerson to provide explaination of process and test plan prior to initiating detailed RCA for the 3rd board.	Emerson / FMC Norway	10/15 - Pending reciept of RCA items #16, 17, 18. 10/16 - Authorized to begin initial investigation detailed RCA pending responses from RCA items 16 - 20 10/23 - RCA items 16 - 20 closed, will provide ASAP, in order For FMC / BP to authorize detailed investigation. 10/28 - Emerson Provided, attached in meeting notes to be reviewed 10/30-11/4 10/30 - FMC Norway to providec omments by 11/4. 11/6 - FMC Norway to provide comment 11/18 - We have no further comments than the request for thermal cycling test asked for during telecom 6th of November.	20-Nov	Recommend Close
					11/6 - Discussed and will be prepared next week. 11/13 - FMC Norway to initiate contact 11/18 - DR does not perform any specific test on the additional mezzanine cards (See attached PDF documents) However, the TPU cards see further testing during FMC system test. Serial card		
	21	30-Oct-08	Data Respons to review functional spec and testing requirements of Mezzanine boards (Ethernet / PMC) and report to the team.	Mikal Loken (Data Respons)	GE Fanuc has confirmed that they can perform RCA, and it is GE Fanuc located in US that will perform a potential RCA. Provided PDFs in 11/19 action update, since Team has not directed the investigation in this direction recommend close	20-Nov	Recommend Close
	22	6-Nov-08	Provide description of offshore failure for TPU S/N -8358397	FMC CS	Flagged in TPU mapping and Cabinet #1 tabs 11/14 - Provided statement 11/18 - Updated TPU Mapping tabs below	20-Nov	Done

BPEP_ABB_03665281_EXCEL.xls - "Actions" Sheet

			Date	Action	Responsible	Comments/Resolution	Due Date	Status
		23	6-Nov-08	BP to review and comment to the FMC Norway Initial report	BP	Issued along with action update 11/6 11/13 - BP to Consolidate response	20-Nov	In Process
	Fault / Decision Tree	9	6-Oct-08	Provide Decision Tree Proving history with detailed conditions of satisfation to be included in final reports to support reccomendations and final actions	Robert Noe	10/6- initated action to have ready for review by BP and RCA team by 10/10. 10/15 - Sent to team for review leave open until comments are incorporated. 10/21 - Robert Noe to resend native power point presentation for review, remove from excel worksheet since it is not legible. 10/23 - recieved comments from Brian Young, BP. Will update PPT and send to all	On going	In Process
	Cabinet Investigatio	11	3-Oct-08	Determine MTBF for Fans currently configured to run 100% - 10/23 addition: Along with additional affects to the system (maintenance, sparing reccomendations, system operations, etc.)	Abdullah Akkoca	10/6- Information will be provided by end of the day 10/6. 10/9 - to be provided week of 10/13 and included in initial FMC Norway report. 10/21 - Data available, to be included in the initial report.	On-going	In Process
		15	6-Oct-08	Provide system design Basis compared to known enviroment	FMC Norway	to be provided in detailed FMC Norway report	On-going	In Process
	SPCU Historical Data	2	19-Sep-08	Obtain and investigate SN's / QN's on all SPCU Cabinets of this design including TH	Abdullah Akkoca	10/3- Provided single QN for Cab 3, working to gather SN/QN's for all SPCU cabinets. 10/23 - FMC Norway to run reports and provide by 11/3 11/6 -List of Part numbers that is similar SPCU2000/150. This list will be used by Johnny Berg to search for SN/QN's for the PN's. 11/13 - Spreadsheet made available and included in SN Listing #2 tab below	20-Nov	Recommend Close
	TPU	6	6-Oct-08	Determine what temp the TPU board will fail	FMC Norway	to be provided in detailed FMC Norway report	ongoing	In Process
		7	6-Oct-08	Provide detail on individual component ratings on TPU Board	FMC Norway	to be provided in detailed FMC Norway report	ongoing	In Process
		8	6-Oct-08	Provide explaination of relationship of component life when exposed to temps higher than specified range	FMC Norway	to be provided in detailed FMC Norway report	ongoing	In Process
		9	6-Oct-08	Perform testing in Houston (Steve Cotton), duplicate failure	FMC Houston	No defined Scope at this point, define later	TBD	
		10	23-Oct-08	Set-up watch dog in honeywell system to alert failure.	FMC CS	10/28 - Item to be discussed with All, functionality may already exist. 10/30 - Visibility added to well screens, this will be confirmed and closed. 11/6 - Testing functionality may be required with Honeywell, Nita to coord mtg. 11/14- SEM Time object will be added to each well and will be monitored by Honeywell. An indication that the TPU locked up will occur if the SEM time stops updating	20-Nov	In Process
	TPU Mapping							

BPEP_ABB_03665281_EXCEL.xls - "Actions" Sheet

			Date	Action	Responsible	Comments/Resolution	Due Date	Status
	SW / Firmware	3	6-Oct-08	Provide reports provided to FMC Norway to evaluate bugs and results as to whether they could have contributed to communication errors.	Polycarp Kamau FMC Norway	10/6- Polycarp has info and will forward to team. 10/9 - to be provided in detailed FMC Norway report 10/21- Checksums were compared from chips on board with firmware software by Dale Furneaux. Everything seemed okay. A statement by Norway Software Team was given: "Normally we do not use the term firmware, but if it is to be understood as our boot- and application software flashet on the TPU-card, then we can not rule out that there could be a fault here. No one can state that they have software that is 100% fault free. With regards to temperature issues, it is difficult to say anything about the effect on software due to heated hardware."	On-going	In Process
		4	23-Oct-08	FMC Norway to provide Change Logs to determine if bugs have been addressed.	FMC Norway	ATL = ver 2.5 TH = ver 2.4 ver 2.5 included DHFC current limit for Schlumberger Card		Recommend Close
		4b		Application SW	Geir Mostad	Application software: I have not yet managed to get some data from Software related to this item yet. Need to talk to a specific person that has not yet been available this week. 11/19- Send PDF's 1- SPC-00000023993 2- Eng Chg Note: CM 500000059845 3- Eng Chg Note: CM 500000060418 11/19- Sent with Status update dated 11/19	20-Nov	Recommend Close
	General							
		18-Nov	??	Maintenance Procedure				
		18-Nov	??	Temperature Reading remotely				

BPEP_ABB_03665281_EXCEL.xls - "SN Listing #2" Sheet

Part nummer	Description	Fan description	Fan control	Notes
100029125	SPCU200/150 - 2X6 LINES - BP Thunder Horse	1 x Roof 1 x cabinet door inlet + duct from door to fan	Thermostat - Set point = Below ambient I.e. always on	
QN 200021537	SPCU, PLC analog module 44B not working, Reported from Houston: SPCU Cabinet 45037173-02 - the GE Versamax PLC for system B, one analog module is not working. This module was the one that intermittently turns ON and OFF, meaning works for a while and then it quit working and then it works again. While checking the insulation resistance values of the SPCU's, the cabinet 2 system B is communicating but the Analog module (44B) is not responding. Turned OFF the PLC power for cabinet 1B & 2B and swap Analog modules from Cabinet 1B to Cabinet 2B. When the PLC at both cabinet are up and running, the analog board responds OK at 2B while the Cabinet 1B analogs is not OK. Conclusion: One Analog module that was from Cabinet 2B quit working, while the other Analog board is intermittently ON and OFF. A replacement is needed ASAP before the scheduled delivery. The Model number for the Analog is IC200ALG260A with serial numbers 8195701-148 and 8195894-148. There is another number which I'm not really other module C744502.			Finnished 20-09-2004

Part nummer	Description	Fan description	Fan control	Notes
100037216	SPCU200/150 - 2X6 LINES	1 x Roof 1 x cabinet door inlet 2 x TEM rack fan	Always on - i.e. no thermostat control	
QN 200085856	Communications problems during commissioning on 19/07/07. At the beginning, there was no communication through line A. After being in contact with FMC (O.Boe), we swapped both modem and filters with "spare" elements. (Each SPCU cabinet is equipped with 12 sets of modem cards + filters, some of them are not used in the current configuration) Modem card and filter from line 6A were installed on line 1A on SPCU 2. Then communication through line 1A was established, but with high level of errors (from 2 to 5% of retries/nb of telegrams over a few days). No communication through line 1A SPCU 1, was fixed the same way, by installing modem card + filter from borrowed from line 4A. Then communication was normal (no errors). While replacing modem and filter on SPCU 1 line 1A, we noticed that that filter card removed from line 1 A is different of the one from line 4 A. There is a sticker mentioning that the filter has been tested on the one which is OK (i.e filter taken on line 4A and installed on line 1A). On the "failed" filter this sticker is missing. Then we decided to check all filters to see if this "test certificate" was on other filters. During this check, we went back to SPCU 2 line 1A on which we replaced again (i.e for the second time) both modem and filter. Elements from line 4 A were installed on line 1A. Now communication is normal on line 1A (0 errors over 1 week). An other communication problem happened 14/09/07 on SPCU 3. Alarms were raised on valves positions on SCU. Investigations showed that when sending valves commands, they were only sent and executed through line B. But data acquisition (sensors, etc) was still working on line A. After reset of SBC 1A on SPCU 4, this problem disappeared. Now valves commands are executed normally on both lines A & B. Could you please ask FMC to investigate on these issues ? Can they confirm the failure of modems and/or filters on lines 1A SPCU 1 & 2 ? And also ask FMC to provide spare filter and/or modem cards as soon as the root cause of the problem is identified. I attached pictures of filters showing a "good" one (tested) and a "bad" one. Note that if it was OK after replacement of a "not tested" by a "tested" filter, it was different on P 7021 : First one was a "not tested", then replaced by a "tested" one, result was better but still far from expected, then this listed one was replaced again with another "tested" one and now it's OK. You will also find a status of all filters showing which have been tested. Hope this is clear, if not I will answer any questions if required.			Finnished May 28 - 2008 BERGJOH: The modem boards (sent to vendor on QN200098708)are back after being repaired at KITRON. None of these 3 boards did pass the tests. Repair activity revealed that trimming was needed (replaced Trim components) After trimming, all the modem boards passed the tests and they are found to be OK; see attached test-report in QN200098708.

BPEP_ABB_03665281_EXCEL.xls - "SN Listing #2" Sheet

Part nummer	Description	Fan descriptioin	Fan control	Notes
P6000012199	SPCU 200/150, 2 X 4 LINES	1 x Roof 1 x cabinet door inlet 2 x TEM rack fan	Always on - i.e. no thermostat control	
QN 200057544	E-fat Eventlogintermitant fault on SPCU 1, TPU card B2, when config file is redistributed TPU B2 drop's out and has to be reset from the fromt panle of the SPCU and config file redistributed. The TPU (SPCU1, board B2) to be brought to the "Smart lab" to investigat if it's a SW or HW problem. Investigation ended without result. The problem is not possible to reproduce with the available information. The defective board shall be scrapped - it has an intermittent error. It has not been possible detect the cause of this failure.			Finnished 29-8-2007
Part nummer	Description	Fan descriptioin	Fan control	Notes
P6000015777	SPCU 200/150, 2 X 5 LINES	1 x Roof 1 x cabinet door inlet 2 x TEM rack fan	Always on - i.e. no thermostat control	
QN 200064499	Punch list: I/O List to be updated.			Finnished 2-1-2007
Part nummer	Description	Fan descriptioin	Fan control	Notes
P6000016178	SPCU 200/150, 2 X 6 LINES	1 x Roof 1 x cabinet door inlet 2 x TEM rack fan	Always on - i.e. no thermostat control	
No QN's / SN's				
Part nummer	Description	Fan descriptioin	Fan control	Notes
P6000035791	SPCU 200/150, 2 X 6 LINES	1 x Roof 1 x cabinet door inlet 2 x TEM rack fan	Always on - i.e. no thermostat control	SPCU not commissioned yet offshore
No QN's / SN's				
100034273	*SPCU200/150 - 2X6 LINES - BP Atlantis*	*1 x Roof* *1 x cabinet door inlet + duct from door to fan* *1 x TEM rack fan*	*Thermostat - Set point = Default => 30degC.* *I.e partly on.*	

Exhibit 107
Part 11

BPEP_ABB_03665281_EXCEL.xls - "SN Listing #1" Sheet

Date	QN/SN	Type	Reported by	Board s/n	Cab.	Line	Description	Activity	
2/13/07	SN 300113300						BP Atlantis PQ Topside Support		
18.03.2008 SR: 2/3/08	SN 300149214		NEHRAA		C1	1A	SPCU C1 Line 1A TPU Locked Up	Trip 1	I was informed that this TPU was not allowing any messages to be sent to the SCMs it was connected to nor was it receiving any updates. A trip to Westlake was made to learn more about the issues. While we were there someone offshore mentioned that the CPU LED on the board was on solid. We decided to reset the TPU board. After resetting the board everything seemed to work like normal, but it was agreed that when a trip was made offshore that the TPU would be replaced.
3/20/08	QN 200095259	ZB		SPCU s/n EQ10141679					
3/18/08	SN 300149317		NEHRAA		C3	2B	TPU dropout from SmartTool	Trip 1	3/05/2008 While swapping out SPCU C1 Line 1A TPU with a new board, I noticed that SPCU C3 Line 2B TPU had dropped out of SmartTool. I've seen this on other platforms that have only two TPUs. I think this might be the same issue.
3/27/08	QN 200095553	ZB							
31.07.2008 SR: 26/6/08	SN 300158950		NEHRAA		C2	1B	TPU C2 1B Lockup	Trip 2	TPU 1B in cabinet 2 was locked up and would not allow any communications for its SEMs. The CPU LED was lit solid. While troubleshooting I was logging the Debug Port data. See the attached log file. I tried to reset the board twice, but this did not help. I then performed a power cycle on the TPU board, but that did not help either. I swapped the locked up TPU C1 1B with TPU C3 1A and distributed it with the proper configuration. Swapping the TPU worked.
8/1/08	QN 200105051	ZB							
8/19/08	SN 300159883		NEHRAA		C2	1A	TPU C2 1A, C2 1B, C3 1B, C3 2B Lockups	Trip 3	**7/27/08: We were notified that TPU C2 1B stopped communicating.** 7/29/08: In the morning of 7/29/08 TPU C2 1A stopped communicating as well, leaving two wells with no controls. Some basic troubleshooting was performed from BP's main office on 7/29/08. The resets and power cycles were performed on the boards, but nothing worked.

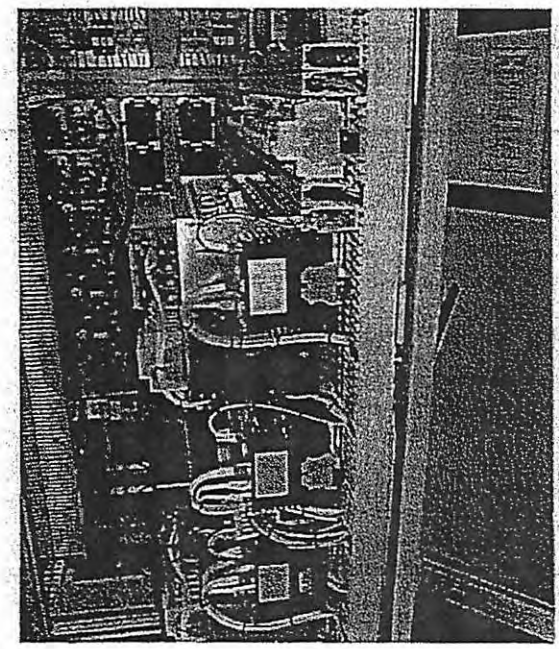
BPEP_ABB_03665281_EXCEL.xls - "SN Listing #1" Sheet

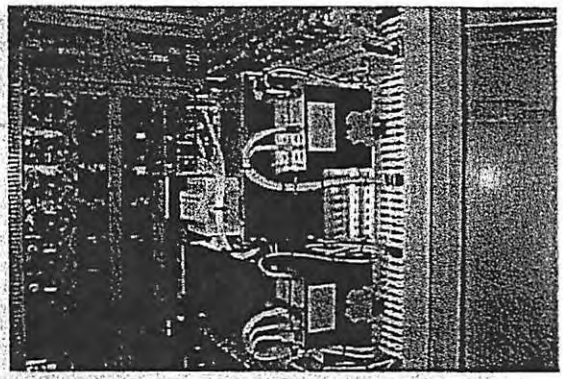
Date	QN/SN	Type	Reported by	Board s/n	Cab.	Line	Description	Activity	
					C2	1A			7/29/08: I arrived on the platform with two new TPU boards. I performed some troubleshooting on C2 1A (see "1 - 20080729 - Debug C2 1A.rtf." My comments are denoted with three asterisks '*'):Connected debug cable into C2 1A Reset the board Connected SmartTool to the board through a separate switch to my laptop Reset the board Disconnected all Ethernet cables (ST and PMC) from the board Reset the boardR econnect Ethernet (only ST to my laptop) Turned off SPCU C2 side A power completely Powered on side A power Powered off TEM A power Reseated TPU C2 1APowered on TEM A. TPU started normally.
					C2	1B			I performed some troubleshooting on C2 1B (see "1 - 20080729 - Debug C2 1B.rtf." My comments are denoted with three asterisks '*'):Connected debug cable into C2 1B Reset the board. Only one 'A' character showed up in HyperTerminal. Connected ST directly from my laptop through a switch Reset the board. Only one 'A' character showed up. Disconnected all Ethernet cables Reset the board. Only one 'A' character showed up. Reconnected Ethernet (only ST from my laptop)Turned off B side power completely Powered on B side. Only one 'A' character showed up. Turned off TEM B Only pushed board in further Powered on TEM B. Only one 'A' character showed up. Powered off TEM B Reseated C2 1B. Only one 'A' character showed up. Swapped board with new board. 7/30/08: Overnight TPU C2 1A stopped communicating. On 7/29/08 I noticed that none of the boards from cabinet 3 were communicating (TEM A was off and TEM B was on). Since C3 TEM A was off so I turned it on. C3 1A is not installed in the cabinet because it was used in C2 1B in a previous trip. After turning it on C3 2A started communicating normally.

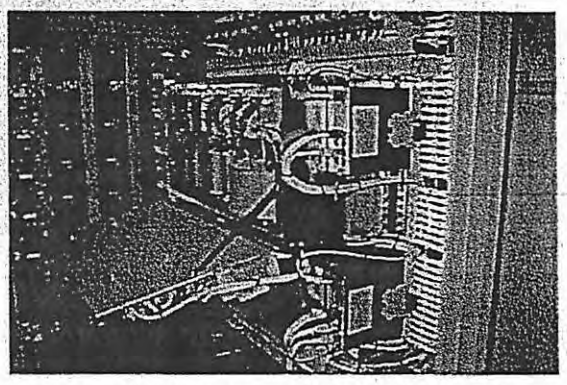
BPEP_ABB_03665281_EXCEL.xls - "SN Listing #1" Sheet

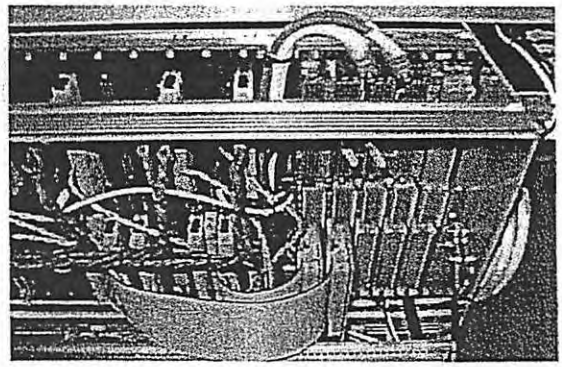
Date	QN/SN	Type	Reported by	Board s/n	Cab.	Line	Description	Activity	
					C3	1B, 2B			so I performed some troubleshooting on C3 1B and C3 2B and C2 1A (see "3 - 20080730 - Debug C3 1B, C3 2B, and C2 1A .rtf." My comments are denoted with three asterisks "***"):Put debug cable into C3 1BStarted C3 (I left it off overnight so I could start fresh on 7/30/08)C3 1B showed only the 'A' character in Hyper Terminal Reset C3 1B. Only showed the 'A' character. Put debug cable into C3 2B and pressed reset on the board The board started, but did not load all the way Reset the board and this time the board started normally with the correct configuration Put debug cable into C2 2A and powered on TEM A Started normally Put debug cable into C3 2B and pressed reset to test it again. No characters were seen in HyperTerminal. Performed multiple resets and power cycles on C3 1B and C3 2B. No characters were seen in HyperTerminal. CPU LED was lit solid. Reseated C3 1B. Performed multiple resets and power cycles on C3 1B and C3 2B. No characters were seen in Hyper Terminal. Reseated C3 2B. Performed multiple resets and power cycles on C3 1B and C3 2B. No characters were seen in Hyper Terminal. Pulled both boards and brought them back to FMC. Did not replace with any other board. So not cabinet 3 is missing 3 boards. Reset C2 1A and it started normally Stopped working while I happened to be looking at
8/19/08	QN 200106252	ZB							Info as SN300159883
SR: 19/8/08	Missing?		POLYCARP		C2	2B		Trip 4	
									About every five days the Bender IR Unit has a low alarm for some lines that have active wells on it. One Bender unit is used for six different lines (one at a time) coming to it which are multiplexed by a GE PLC. One line is selected for two minutes and then there is a 30 second period where no line is selected. It then continues to go on to the other lines. I tried connecting a test resistor (10 KOhm) while I was offshore, it seemed to work just fine. While doing this test I noticed that the alarm that gets latched in the Bender Unit itself is cleared. I think the PLC is clearing this alarm. The PLC has its own latch that can only be reset if someone pushes the main reset button on the front of the SPCU cabinet. There is a possibility that for some odd reason the Bender Unit returns a false low value, or it could be because of the way the six lines are being multiplexed to the Bender unit. Because there was a lack of time I was unable to test the "Calibration correction" parameter in SmartTool. If nothing gets resolved it might be a good idea to test this parameter the next time someone goes to the PQ.
3/19/08	SN 300149316		NEHRAA				Low Bender IR Alarm Readings		
3/20/08	QN 200095282	ZB							

BPEP_ABB_03665281_EXCEL.xls - "SPCU Photos" Sheet

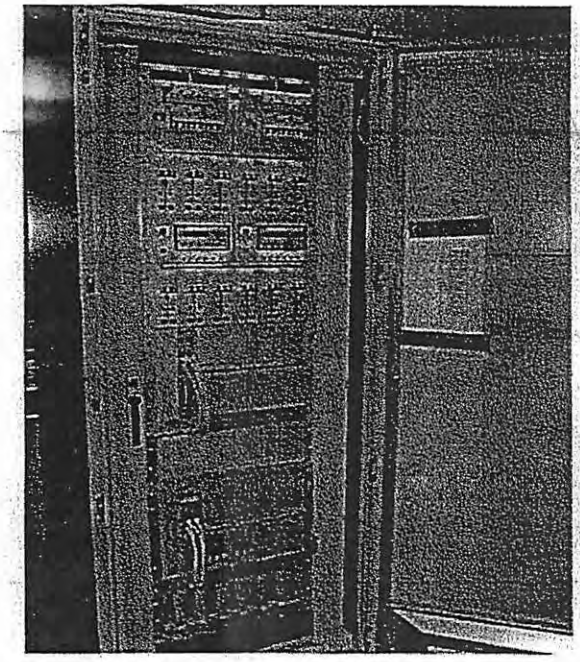


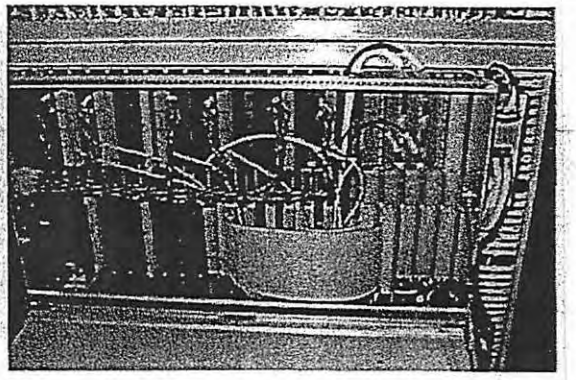


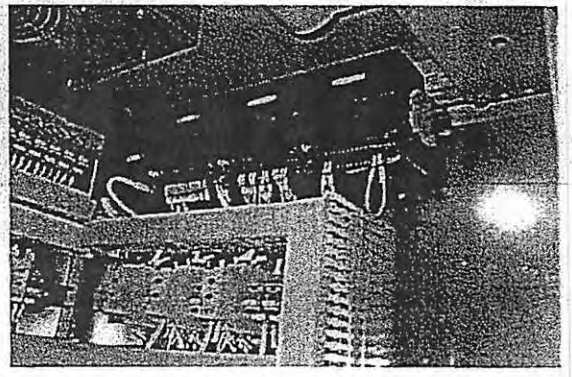


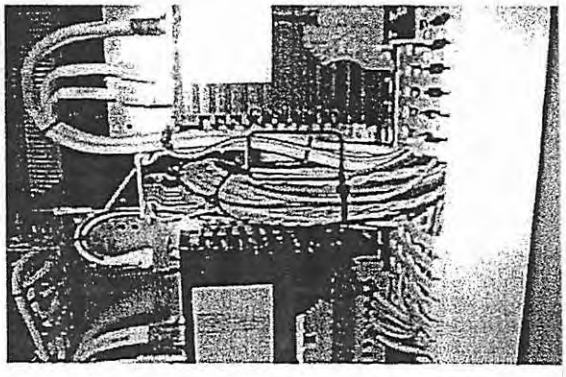


BPEP_ABB_03665281_EXCEL.xls - "SPCU Photos" Sheet

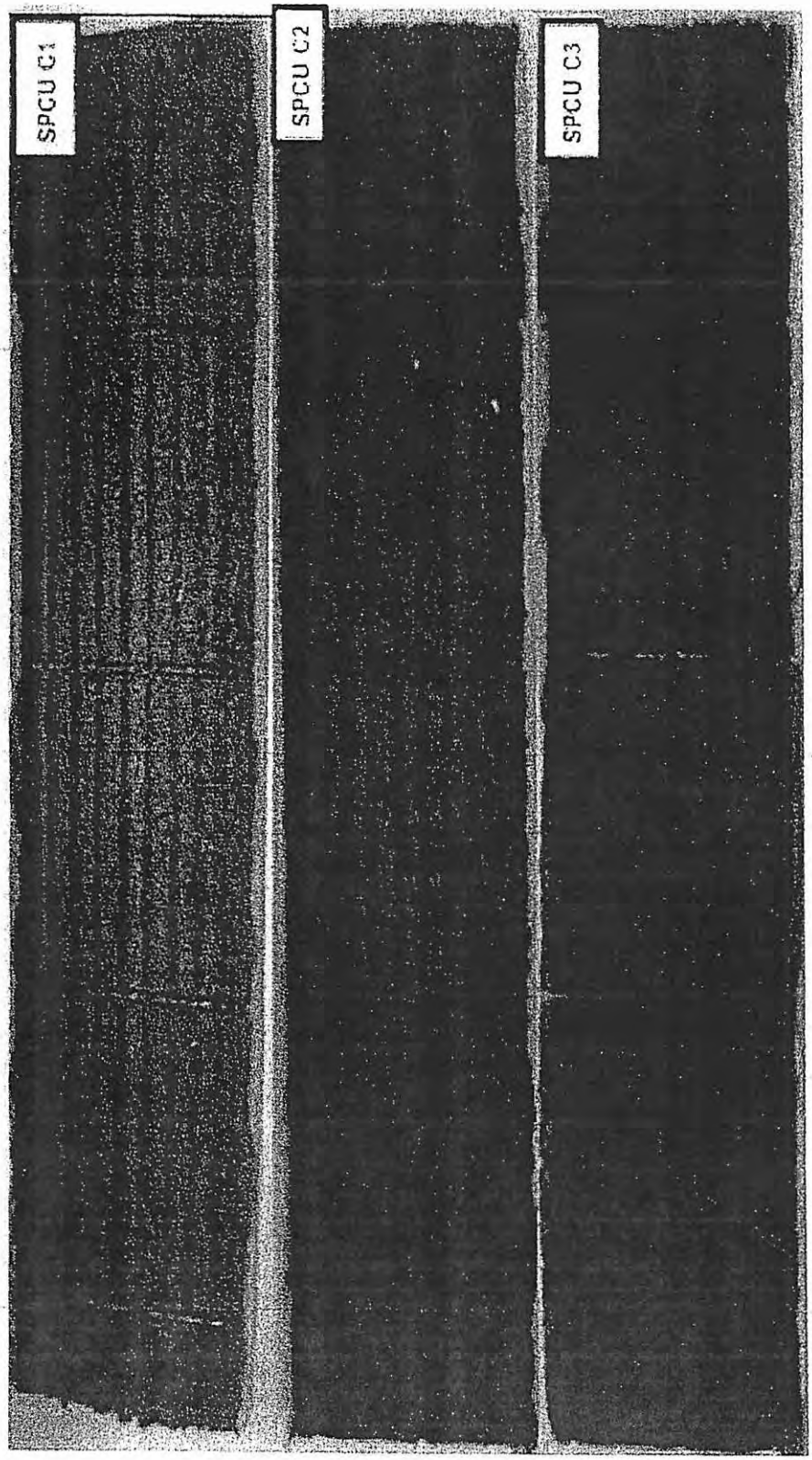




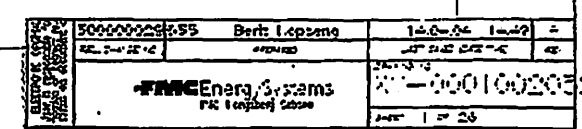




BPEP_ABB_03665281_EXCEL.xls - "Filter Photos" Sheet



REDACTED



Case 4:09-cv-01193 Document 343-17 Filed in TXSD on 04/04/12 Page 8 of 26

BPEP_ABB_03665281.xls - "TPU Mapping" Sheet

BP Atlantis Equipment History

Single Board Computer	Board #1	Board #2	Board #3	Board #4	Board #5	Board #6	Board #7
Part Number	100036467	100036467	100036467	100036467	100036467	100036467	100036467
Serial Number	8218711	8218638	8218727	8218642	8218658	8218757	8358397
Firmware Revision	07A		07A	07A		07A	07B
Serial Card Serial Number	603923	603924	626236	626259	626262	626325	668444
Serial Card FW Revision	C99104A	C99104A	C99104A	C99104A	C99104A	C99104A	C99104A
Ethernet Card Serial Number	081513003	081083025	081493137	081493142	081493136	081493139	
Ethernet Card FW Revision	A	A	A	A	A	A	A
First Location	Cabinet 2/Slot 1B	Cabinet 3/Slot 1A	Cabinet 2/Slot 1A	Cabinet 3/Slot 1B	Cabinet 3/Slot 2B	Cabinet 2/Slot 2B	Cabinet 1/TEM A/Slot 1
First Problem	Stopped Communicating	Functioned Properly	Stopped Communicating	Stopped Communicating	Stopped Communicating	TPU 2B dissapeared from the Smart Tool configuration. There was a complete loss of network connectivity to the board.	Atlantis was having problems with production wells P123, P124, and P143 on SEM A. BP agreed it would be a good idea to swap TPU C1 1A (Board #7 SN: 8358397). The problem with this board is probably not related to the other boards.
Date of First Probem	06/27/2008	Unknown	07/29/2008	07/30/2008			2/29/08
Second Location	FMC Houston/development lab	Cabinet 2/Slot 1B	FMC Houston/development lab	FMC Houston/development lab	FMC Houston/development lab	FMC Houston/development lab	FMC Houston/development lab
Second Problem	No problem, functioned correctly	7/27/2008	Booted correctly	Would not boot, CPU light was lit.	Would not boot, CPU light was lit.	Would not boot	Booted correctly
Date of Second Problem	06/30/2008					10/07/08	10/07/08
Third Location		FMC Houston/development lab	Emerson (See Notes)	Emerson (See Notes)	Emerson (See Notes)	Emerson (See Notes)	Emerson (See Notes)
Third Problem		Would not boot, CPU light was lit.			Not repairable		
Date of Third Problem							
Forth Location		Emerson (See Notes)					
Forth Problem		Repaired					
Date of Forth Problem							
Notes	Returned to FMC Houston on 06/27/2008, tested on 06/03/2008 and functioned correctly. Sent to Emerson 10/16 Started inittial RCA in Tempe 10/23	Returned to Houston Sent to Norway, then to Data Respons At Emerson repair center on 09/12/2008 Repaired.	Board was re-seated in Cabinet 2/Slot 1A and it functioned correctly Sent to Emerson 10/16 Started inittial RCA in Tempe 10/23	Returned to Houston Sent to Emerson 10/6 Started initial RCA 10/16	Sent to Norway then Data Respons. In route to Emerson 9/12/2008. Not repairable, discarded.	Last Board returned from PQ to Houston Sent to Emerson 10/16 Started inittial RCA in Tempe 10/23	Returned to Houston Sent to Emerson 10/16 Started initial RCA in Tempe 10/23

BPEP_ABB_03665281.xls - "TPU Mapping" Sheet

Single Board Computer	Board #1	Board #2	Board #3	Board #4	Board #5	Board #6	Board #7
Notes (continued) Emerson Info provided 10/6	Passes Visual inspection. Boots up customer firmware with both customer cards. Boots up Bug with no cards. Passes Self Test. Passes FAT.Passes RAM with caches enabled and disabled. Passes RAM with ECC enabled and disabled. Boots AIX. Boots vxWorks. Passes extended VME tests. Passes RAM tests on PrPMC populated on PCI Slots from Hostboard. Passes loop of self test over night. **Added 10/6 -** Board will fail l2cache test in ALT Chamber running at 49 degrees C when Serial Card is populated, but will pass and run for several hours on a self test loop with serial card off .		Passes Visual inspection. Boots up customer firmware with both customer cards. Boots up Bug with no cards. Passes Self Test. Passes FAT.Passes RAM with caches enabled and disabled. Passes RAM with ECC enabled and disabled. Boots AIX. Boots vxWorks. Passes extended VME tests. Passes RAM tests on PrPMC populated on PCI Slots from Hostboard. Passes loop of self test over night. **Added 10/6 -** Board will hang/freeze in self test in ALT Chamber running at 49 degrees C when Serial Card is populated, but wil pass and run for 24 hours on a self test loop with serial card off	Passes Visual inspection. **Added 10/6 - Board is a dead no start.** Board does not boot up customer firmware with both customer cards and won't boot up to Bug with or without PMC cards . Installed Risc Watch header and the board fails for stuck data lines coming out if the CPU		Passes Visual inspection. **Added 10/6 - Board is a dead no start.** Board does not boot up customer firmware with both customer cards and won't boot up Bug with no cards.	Passes Visual inspection. Boots up customer firmware with both customer cards. Boots up Bug with no cards. Passes Self Test. Passes FAT.Passes RAM with caches enabled and disabled. Passes RAM with ECC enabled and disabled. Boots AIX. Boots vxWorks. Passes extended VME tests. Passes RAM tests on PrPMC populated on PCI Slots from Hostboard. Passes loop of self test over night. Pass in ALT Chamberfor 3 days running at 49 degrees C with both PMC cards populated.
Notes (continued) Emerson Info provided 10/13	Board will fail L2cache when CPU is chilled to 40 F, but will start passing again once it gets back to ambient temperature . No cards populated		Hard L2cache failure. L2D11 is stuck low. L2cache will pass when CPU is heat to around 150 degrees. No cards populated	Board will start when heated to about 150 degrees. No cards populated. CPU Date Code D38		Board will start when CPU is heated to 150 degrees. No cards populated. CPU Date Code D31	Return to Brian McIntosh
Notes (continued) Emerson Info provided 10/20							
VME TPU Backplane							
Part Number	10016336						
Cabinet	Cabinet #1	Cabinet #2	Cabinet #3				
Part Number	100034273	100034273	100034273				
Serial Number	45046010-001	45046010-002	45046010-003				
Tag Number	AT-CAB-J312	AT-CAB-J313	AT-CAB-J314				

BPEP_ABB_03665281.EXCEL.xls - "Cabinet #1" Sheet

Cabinet #1					
Part Number	100034273				
Serial Number	45046010-001				
Tag Number	AT-CAB-J312				
VME TPU Backplane					
Part Number	10016336				
TPU Boards	MVME 2434				
	TEM A			TEM B	
	Slot 1	Slot 2		Slot 1	Slot 2
Part Number	100036467				
Serial Number	8358397				
Firmware Revision	07B				
Serial Card Serial Number	668444				
Serial Card FW Revision	C99104A				
Ethernet Card Serial Number					
Ethernet Card FW Revision	A				
Initial Location	Cabinet 1/TEM A/Slot 1				
Initial observation	Atlantis was having problems with production wells: P123, P124, and P143 on SEM A. BP agreed it would be a good idea to swap TPU C1 1A (Board #7 SN: 8358397). The problem with this board is probably not related to the other boards.				
Initial Date	2/29/08				
Second Location	FMC Houston/development lab				
Second Observation	Booted correctly				
Second Date	10/07/08				
Third Location					
Third Observation					
Third Date					
Notes*	Returned to Houston Sent to Emerson 10/16 Started inittial RCA in Tempe 10/23				

BPEP_ABB_03665281_EXCEL.xls - "Cabinet #2" Sheet

Serial Number	45046010-002				
Tag Number	AT-CAB-J313				
VME TPU Backplane					
Part Number	10016336				
TPU Boards	MVME 2434				
	TEM A			TEM B	
	Slot 1	Slot 2		Slot 1	Slot 2
Part Number	100036467			100036467	100036467
Serial Number	8218727			8218711	8218757
Firmware Revision	07A			07A	07A
Serial Card Serial Number	626236			603923	626325
Serial Card FW Revision	C99104A			C99104A	C99104A
Ethernet Card Serial Number	081493137			081513003	081493139
Ethernet Card FW Revision	A			A	A
Initial Location	Cabinet 2/TEM A/Slot 1			Cabinet 2/TEM B/Slot 1	Cabinet 2/TEM B/Slot 2
Initial observation	Stopped Communicating			Stopped Communicating	TPU 2B disappeared from the Smart Tool configuration. There was a complete loss of network connectivity to the board.
Initial Date	07/29/2008			06/27/2008	
Second Location	FMC Houston/development lab			FMC Houston/development lab	FMC Houston/development lab
Second Observation	Booted correctly			No problem, functioned correctly	Would not boot
Second Date				06/30/2008	10/07/08
Third Location				N/A	
Third Observation				N/A	
Third Date				N/A	
Notes*	Board was re-seated in Cabinet 2/Slot 1A and it functioned correctly Sent to Emerson 10/16 Started inittial RCA in Tempe 10/23			Returned to FMC Houston on 06/27/2008, tested on 06/03/2008 and functioned correctly. Sent to Emerson 10/16 Started inittial RCA in Tempe 10/23	Last Board returned from PQ to Houston Sent to Emerson 10/16 Started inittial RCA in Tempe 10/23

BPEP_ABB_03665281_EXCEL.xls - "Cabinet #3" Sheet

VME TPU Backplane					
Part Number	10016336				
TPU Boards	MVME 2434				
	TEM A			TEM B	
	Slot 1	Slot 2		Slot 1	Slot 2
Part Number	100036467			100036467	100036467
Serial Number	8218638			8218642	8218658
Firmware Revision				07A	
Serial Card Serial Number	603924			626259	626262
Serial Card FW Revision	C99104A			C99104A	C99104A
Ethernet Card Serial Number	081083025			081493142	081493136
Ethernet Card FW Revision	A			A	A
Initial Location	Cabinet 3/TEM A/Slot 1			Cabinet 3/TEM B/Slot 1	Cabinet 3/TEM B/Slot 2
Initial observation	Stopped Communicating			Stopped Communicating	Stopped Communicating
Initial Date	Unknown			07/30/2008	
Second Location	Cabinet 2/Slot 1B			FMC Houston/development lab	FMC Houston/development lab
Second Observation	Would not boot, CPU light was lit.			Would not boot, CPU light was lit.	Would not boot, CPU light was lit.
Second Date	7/27/2008				
Third Location	FMC Houston/development lab			Emerson	Emerson
Third Observation	Would not boot, CPU light was lit.				Not repairable
Third Date					
Notes*	Returned to Houston Sent to Norway, then to Data Respons At Emerson repair center on 09/12/2008 Repaired.			Returned to Houston Sent to Emerson 10/6 Started initial RCA 10/16	Sent to Norway then Data Respons. In route to Emerson 9/12/2008. Not repairable, discarded.

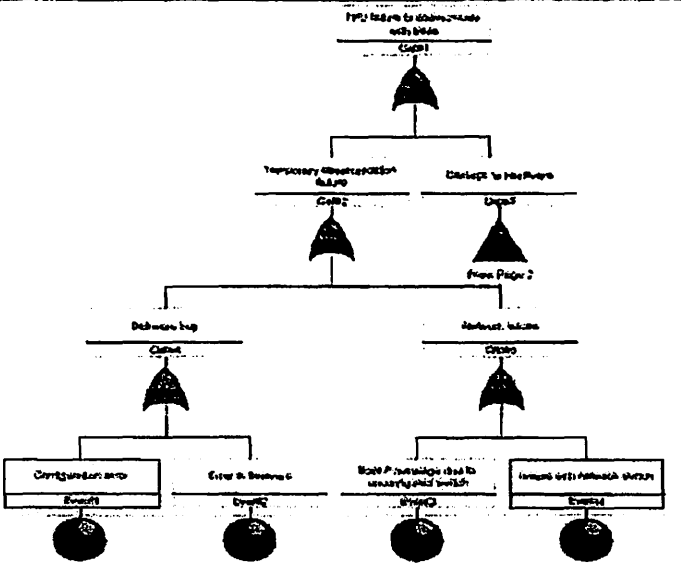
BPEP_ABB_03665281_EXCEL.xls - "Fault Tree" Sheet

Relex Software Report 1

Fault Tree Diagram

File Name TPU.Failure.RPJ
Top Gate Name Gate1

Unavailability
Unreliability



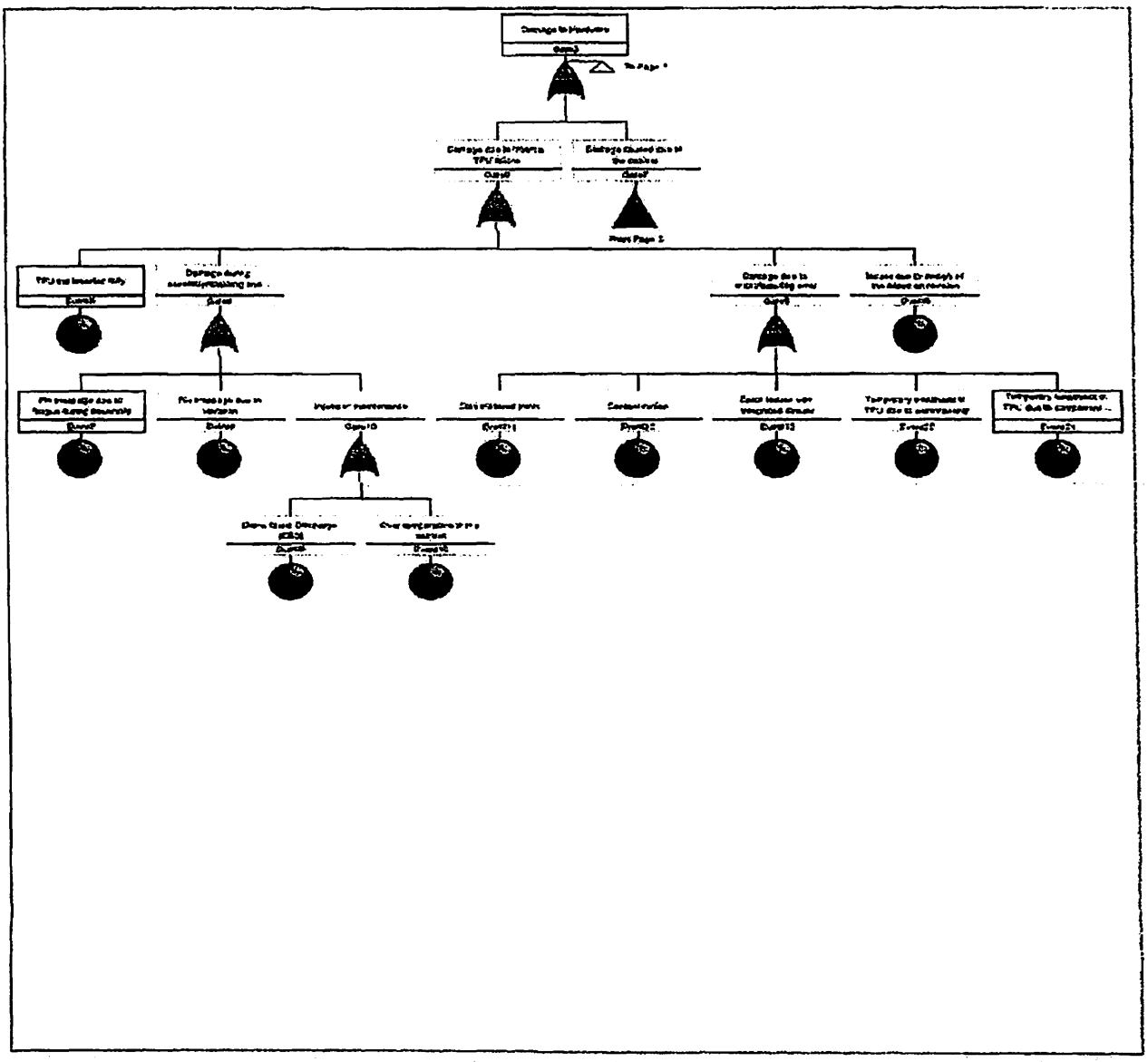
BPEP_ABB_03665281_EXCEL.xls - "Fault Tree" Sheet

Relex Software Report

Fault Tree Diagram

File Name TPU Failure RFJ
Top Gate Name Gate1

Unavailability
Unreliability



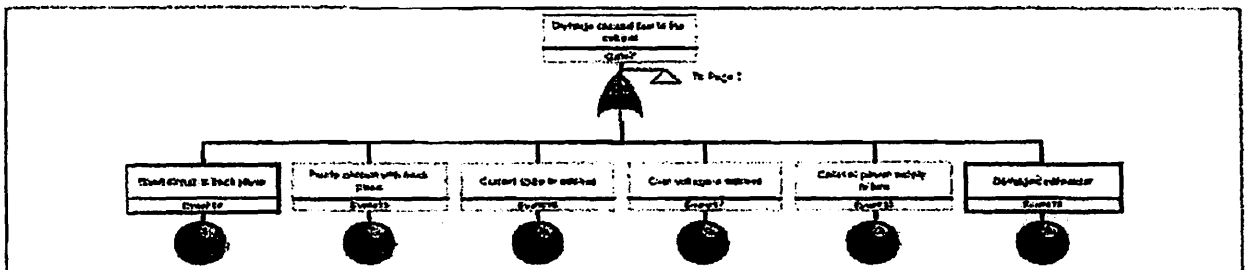
BPEP_ABB_03665281_EXCEL.xls - "Fault Tree" Sheet

Relex Software Report 3

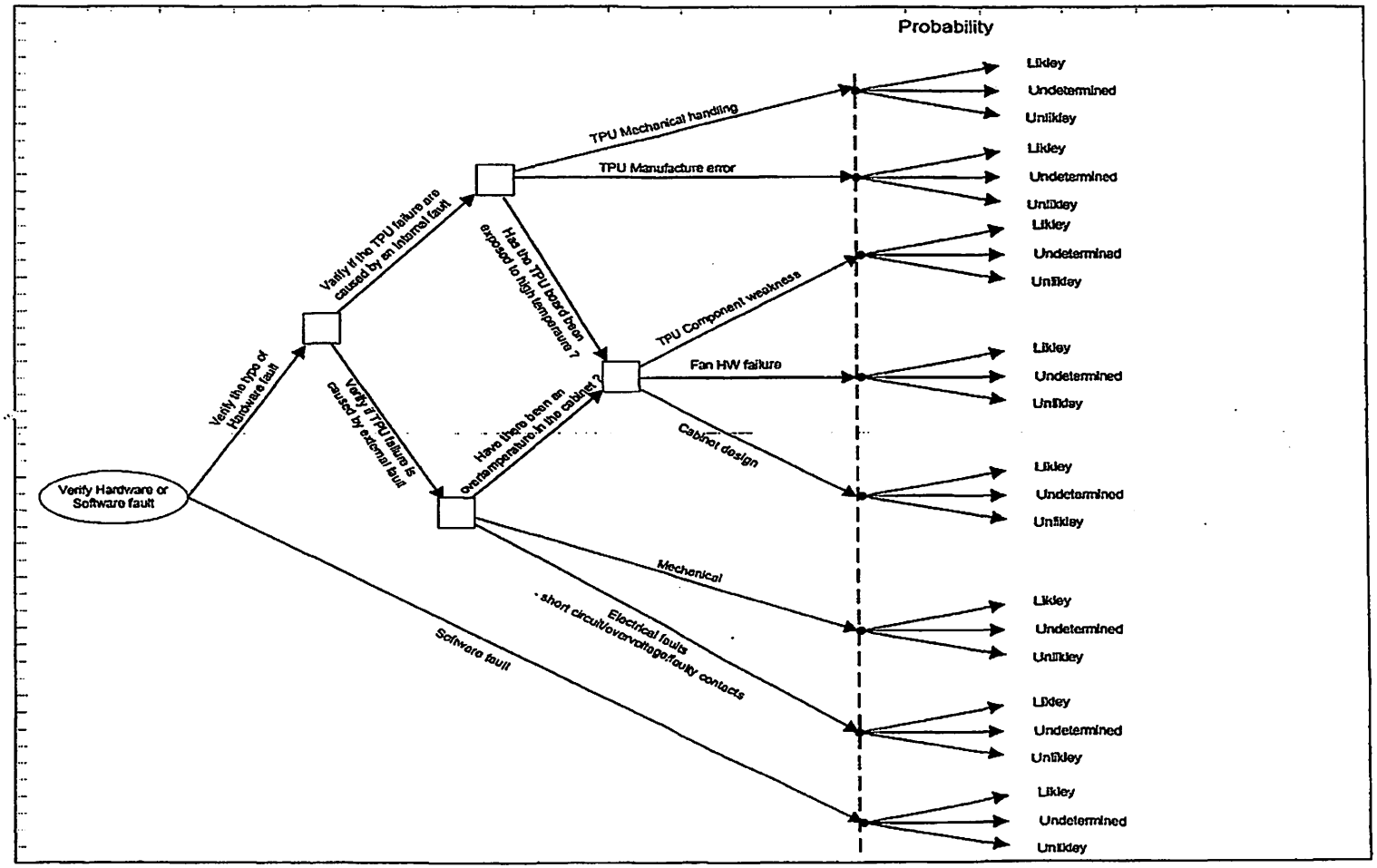
Fault Tree Diagram

File Name TPU Failure.RPJ
Top Gate Name Gate1

Unavailability
Unreliability



BPEP_ABB_03665281_EXCEL.xls - "Norway Decision Tree" Sheet



BPEP_ABB_03665282.EXCEL.xls

Part nummer	Description	Fan description	Fan control	Notes
100029125	SPCU200/150 - 2X6 LINES - BP Thunder Horse	1 x Roof 1 x cabinet door inlet + duct from door to fan	Thermostat - Set point = Below ambient I.e. always on	
QN 200021537	SPCU, PLC analog module 44B not working, Reported from Houston: SPCU Cabinet 45037173-02 - the GE Versamax PLC for system B, one analog module is not working. This module was the one that intermittently turns ON and OFF, meaning works for a while and then it quit working and then it works again. While checking the insulation resistance values of the SPCU's, the cabinet 2 system B is communicating but the Analog module (44B) is not responding. Turned OFF the PLC power for cabinet 1B & 2B and swap Analog modules from Cabinet 1B to Cabinet 2B. When the PLC at both cabinet are up and running, the analog board responds OK at 2B while the Cabinet 1B analogs is not OK. Conclusion: One Analog module that was from Cabinet 2B quit working, while the other Analog board is intermittently ON and OFF. A replacement is needed ASAP before the scheduled delivery. The Model number for the Analog is IC200ALG260A with serial numbers 8196701-148 and 8195884-148. There is another number which I'm not really other module C744502.			Finnished 20-09-2004
Part nummer	Description	Fan description	Fan control	Notes
100037216	SPCU200/150 - 2X6 LINES	1 x Roof 1 x cabinet door inlet 2 x TEM rack fan	Always on - i.e. no thermostat control	
QN 200085856	At the beginning, there was no communication through line A. After being in contact with FMC (O.Boe), we swapped both modem and filters with "spare" elements. (Each SPCU cabinet is equipped with 12 sets of modem cards + filters, some of them are not used in the current configuration) Modem card and filter from line 6A were installed on line 1A on SPCU 2. Then communication through line 1A was established, but with high level of errors (from 2 to 5% of retries/nb of telegrams over a few days). No communication through line 1A SPCU 1, was fixed the same way, by installing modem card + filter from borrowed from line 4A. Then communication was normal (no errors). While replacing modem and filter on SPCU 1 line 1A, we noticed that that filter card removed from line 1 A is different of the one from line 4 A. There is a sticker mentioning that the filter has been tested on the one which is OK (i e filter taken on line 4A and installed on line 1A). On the "failed" filter this sticker is missing. Then we decided to check all filters to see if this "test certificate" was on other filters. During this check, we went back to SPCU 2 line 1A on which we replaced again (i e for the second time) both modem and filter. Elements from line 4 A were installed on line 1A. Now communication is normal on line 1A (0 errors over 1 week). An other communication problem happened 14/09/07 on SPCU 3. Alarms were raised on valves positions on SCU. Investigations showed that when sending valves commands, they were only sent and executed through line B. But data acquisition (sensors, etc) was still working on line A. After reset of SBC 1A on SPCU 4, this problem disappeared. Now valves commands are executed normally on both lines A & B. Could you please ask FMC to investigate on these issues ? Can they confirm the failure of modems and/or filters on lines 1A SPCU 1 & 2 ? And also ask FMC to provide spare filter and/or modem cards as soon as the root cause of the problem is identified. I attached pictures of filters showing a "good" one (tested) and a "bad" one. Note that if it was OK after replacement of a "not tested" by a "tested" filter, it was different on P 7021 : First one was a "not tested", then replaced by a "tested" one, result was better but still far from expected, then this tsted one was replaced again with another "tested" one and now it's OK			Finnished May 28 - 2008 BERGJOH: The modem boards (sent to vendor on QN200098708)are back after being repaired at KITRON. None of these 3 boards did pass the tests. Repair activity revealed that trimming was needed (replaced Trim components) After trimming, all the modem boards passed the tests and they are found to be OK; see attached test-report in QN200098708.
Part nummer	Description	Fan description	Fan control	Notes
P6000012199	SPCU 200/150, 2 X 4 LINES	1 x Roof 1 x cabinet door inlet 2 x TEM rack fan	Always on - i.e. no thermostat control	
QN 200057544	E-fat Eventlogintermitant fault on SPCU 1, TPU card B2, when config file is redistributed TPU B2 drop's out and has to be reset from the fromt pante of the SPCU and config file redistributed. The TPU (SPCU1, board B2) to be brought to the "Smart lab" to investigat if it's a SW or HW problem. Investigation ended without result. The problem is not possible to reproduce with the available information. The defective board shall be scrapped - it has an intermittent error. It has not been possible detect the cause of this failure.			Finnished 29-8-2007
Part nummer	Description	Fan description	Fan control	Notes
P6000015777	SPCU 200/150, 2 X 5 LINES	1 x Roof 1 x cabinet door inlet 2 x TEM rack fan	Always on - i.e. no thermostat control	
QN 200064499	Punch list; I/O List to be updated.			Finnished 2-1-2007

BPEP_ABB_03665282.EXCEL.xls

Part nummer	Description	Fan descriptioin	Fan control	Notes
Part nummer	Description	Fan descriptioin	Fan control	Notes
P6000016178	SPCU 200/150, 2 X 6 LINES	1 x Roof 1 x cabinet door inlet 2 x TEM rack fan	Always on - i.e. no thermostat control	
No QN's / SN's				
Part nummer	Description	Fan descriptioin	Fan control	Notes
P6000035791	SPCU 200/150, 2 X 6 LINES	1 x Roof 1 x cabinet door inlet 2 x TEM rack fan	Always on - i.e. no thermostat control	SPCU not commissioned yet offshore
No QN's / SN's				
100034273	*SPCU200/150 - 2X6 LINES - BP Atlantis*	*1 x Roof* *1 x cabinet door inlet + duct from door to fan* *1 x TEM rack fan*	*Thermostat - Set point = Default => 30degC.* *I.e partly on.*	

From: Furneaux, Dale <Dale.Furneaux@fmcti.com>
Sent: Thursday, November 20, 2008 4:42 PM
To: Nehra, Aneet <Aneet.Nehra@fmcti.com>; Sun, Henry H (HONEYWELL IND. AUTO. and CNTR) <henry.sun2@honeywell.com>; Young, Brian J <Brian.J.Young@bp.com>; Oza, Nita <Nita.Oza@bp.com>
Cc: Leal, JJ (FMC) <JJ.Leal@fmcti.com>; McIntosh, Brian <Brian.McIntosh@fmcti.com>
Subject: RE: BPAT SEM Time Watchdog

Aneet and Henry,

I have just looked through the SPC-0000020722 (Referred as the 722 protocol, TPU to SPC interface) and there mentions a section on Monitoring of communications status between the TEM and SCU. Quote:

Verification of connection can be done by:

Send the "PING data block" every 10 sec. and trigger the TEM communications status if no "PING data block" is received from TEM after 3 retries (3 x 10 seconds).

If ERROR data block 0xF000 000F (ref. ch Error Data Balcok3.4) is received the TEM has been reconnected on "socket level" and is expecting a new start/initialization sequence.

This tells me that there is a PING command available for the MVI to use to check the connection status of the TPU.

Regards,

Dale Furneaux
FMC Technologies
Product Engineer
E: dale.furneaux@fmcti.com | P: 281.591.8016 | F: 281.405.4972

This communication (and/or the documents accompanying it) may contain confidential information belonging to the sender or intended recipient. The information is intended solely for the use of the individual or entity named above. If you are not the intended recipient, you are hereby notified that any disclosure, copying, distribution or the taking of any action in reliance on the contents of this information is strictly prohibited. If you receive this communication in error, please notify us immediately by telephone to arrange for the return of the documents.

From: Nehra, Aneet
Sent: Thursday, November 20, 2008 1:48 PM
To: henry.sun2@honeywell.com; 'Young, Brian J'; 'Oza, Nita'
Cc: Leal, JJ; McIntosh, Brian; Furneaux, Dale
Subject: BPAT SEM Time Watchdog

Dale said there could be an issue if the SEM time is used as a watchdog because if the SEMs are not communicating for any reason it would seem like the TPU is not working. I thought the solution to this problem would be to watch and see if the SEM is updating also, but this would not work either because it would be unreliable if the TPU locked up.

Dale suggested that it would be better to watch for the quality of the tags because they would return 'bad' or 'not connected' if they are not being updated correctly.

Using the SEM time is not a good option to use as a watchdog.

Aneet Nehra
Customer Support Topsides Installation Engineer
E: aneet.nehra@fmcti.com | P: 281 591 3927 | M:

FMC Technologies, Inc
1777 Gears Rd | Houston, TX | 77067 USA
P: 281 591 4000 | F: 281 445 6574

www.fmctechnologies.com

This communication (and/or the documents accompanying it) may contain confidential information belonging to the sender or intended recipient. The information is intended solely for the use of the individual or entity named above. If you are not the intended recipient, you are hereby notified that any disclosure, copying, distribution or the taking of any action in reliance on the contents of this information is strictly prohibited. If you receive this communication in error, please notify us immediately by telephone to arrange for the return of the documents.

From: Cotton, Steven L <Steven.Cotton@bp.com>
Sent: Thursday, November 20, 2008 4:26 PM
To: Young, Brian J <Brian.J.Young@bp.com>; Oza, Nita <Nita.Oza@bp.com>
Cc: Sun, Henry H (HONEYWELL IND. AUTO. and CNTR) <Henry.Sun2@honeywell.com>; DeJohn, Kenneth P <Kenneth.DeJohn@bp.com>
Subject: RE: BPAT SEM Time Watchdog

Nita,

I asked Henry to move forward on the subsea comms MOC without the watchdog. We currently have a high level of activity and will not have time to work through this issue with FMC. We were able to implement the changes that enable the ESD to dump the hydraulics on the HPU when dual comms are lost. We also modified the graphics to clearly indicate when comms are lost on the active channel.

The watchdog is a good idea if FMC can supply a timer type tag but we are working several other projects and MOCs at this time. If FMC is able to supply the tag at a later time, we will gladly incorporate the watchdog into the topside monitoring. This was a small piece of the comms work and the additional value doesn't justify the time it will require to work through this with FMC.

I've seen a few e-mails on this question and we are simply going around in circles. If FMC can supply the tag THEN we can re-engage Honeywell.

Let me know if you'd like to discuss this further.

Steve Cotton

From: Sun, Henry (TX57) [mailto:Henry.Sun2@honeywell.com]
Sent: Thursday, November 20, 2008 2:54 PM
To: Nehra, Aneet; Young, Brian J; Oza, Nita
Cc: Leal, JJ (FMC); McIntosh, Brian; Furneaux, Dale (FMC); Cotton, Steven L
Subject: RE: BPAT SEM Time Watchdog

Aneet,

Does the TPU itself has any watchdog? We would just want to see besides the MVI card connection status, if there is any disconnect or bad link between the ProSoft MVI cards to the FMC equipment; we can be able to monitor it and flag it if it happens.

Henry

From: Nehra, Aneet [mailto:Aneet.Nehra@fmcti.com]
Sent: Thursday, November 20, 2008 1:48 PM
To: Sun, Henry (TX57); Young, Brian J; Oza, Nita
Cc: Leal, JJ; McIntosh, Brian; Furneaux, Dale
Subject: BPAT SEM Time Watchdog

Dale said there could be an issue if the SEM time is used as a watchdog because if the SEMs are not communicating for any reason it would seem like the TPU is not working. I thought the solution to this problem would be to watch and see if the SEM is updating also, but this would not work either because it would be unreliable if the TPU locked up.

Dale suggested that it would be better to watch for the quality of the tags because they would return 'bad' or 'not connected' if they are not being updated correctly.

Using the SEM time is not a good option to use as a watchdog.

Aneet Nehra
Customer Support Topsides Installation Engineer
E: aneet.nehra@fmcti.com | P: 281 591 3927 |

FMC Technologies, Inc
1777 Gears Rd | Houston, TX | 77067 USA
P: 281 591 4000 | F: 281 445 6574
www.fmctechnologies.com

This communication (and/or the documents accompanying it) may contain confidential information belonging to the sender or intended recipient. The information is intended solely for the use of the individual or entity named above. If you are not the intended recipient, you are hereby notified that any disclosure, copying, distribution or the taking of any action in reliance on the contents of this information is strictly prohibited. If you receive this communication in error, please notify us immediately by telephone to arrange for the return of the documents.

From: Noe, Robert <Robert.Noe@fmcti.com>
Sent: Thursday, November 20, 2008 12:38 PM
To: Noe, Robert <Robert.Noe@fmcti.com>; McIntosh, Brian <Brian.McIntosh@fmcti.com>; Oza, Nita <Nita.Oza@bp.com>; Fleming, Ray H <Ray.Fleming@bp.com>; Chan, Roy <Roy.Chan@bp.com>; Young, Brian J <Brian.J.Young@bp.com>; Bradley, George <GEORGE.BRADLEY@fmcti.com>; Olivares, Al [NETPWR/EMBED/AZ] <Al.Olivares@Emerson.com>; Mostad, Geir <Geir.Mostad@fks.fmcti.com>; Cota, Hector [NETPWR/EMBED/AZ] <Hector.Cota@Emerson.com>; Reiff, Greg <Gregory.Reiff@fmcti.com>; Woods, Matt <Matt.Woods@fmcti.com>; McAlpin, Tim [NETPWR/EMBED/AZ] <Timothy.McAlpin@Emerson.com>; Leal, JJ (FMC) <JJ.Leal@fmcti.com>; Kamau, Polycarp <Polycarp.Kamau@fmcti.com>; Nehra, Aneet <Aneet.Nehra@fmcti.com>
Subject: RE: Telecon to discuss BP Atlantis Communication failures
Attach: SBC RCFA report comments BJY.ZIP; Copy of BP action log 11 20.xls

---

The meeting today went very well, thanks to everyone for there support.

As noted in the meeting I promised to send the Consolidated BP Comments to the FMC Norway initial RCA Report. FMC Norway - Please review and ensure thorough consideration in the report.

<<SBC RCFA report comments BJY.ZIP>>

Please find the attached updated action log, Please note the addition of the following new actions as listed below. Since our next meeting is not until 12/3, please ensure the interim actions are addressed by the requested dates.

Emerson – Please provide written update for the TPU mapping tab as done in previous weeks.

<<Copy of BP action log 11 20.xls>>

Gen	20-Nov	Next meeting 12/3, No Meeting 11/27 - Send Invites	Brian McIntosh	21-Nov	Requested	
Cab Inv	20-Nov	Maintenance Procedure - PSM - 0000021102 - review and update in regards to fings of this investigation	FMC Norway	18-Dec	Requested	
Cab Inv	20-Nov	Temperature Reading remotely via Honeywell - FMC to recommend process for adjusting existing feature to a usable setting (currently set at 45deg C)	Aneet Nehra	3-Dec	Requested	
Cab Inv	20-Nov	FMC Norway to provide summary of report analysis leading to design enhancements for new products and include recommendations for Atlantis in regards to fings of this investigation	FMC Norway	10-Dec	Requested	
RCA	20-Nov	Emerson to provide estimated duration for final RCA by manufacturer and duration to finalize report.	Emerson	3-Dec	Requested	
TPU	20-Nov	Emerson to Return all 5 boadrs currently in their possesion to Data Respons for review by FMC Norway, to ensure boards are fit for use on Atlantis.	Emerson	25-Nov	Requested	
TPU	20-Nov	Data Respons and FMC Norway to review returned boards to ensure boards are fit for use on Atlantis.	FMC Norway	3-Dec	Requested	
SW/Firm	20-Nov	Emerson to issue Report - all inclusive less the CPU manufacturers RCA findings on the 2 Dead No Starts.	Emerson	3-Dec	Requested	
SW/Firm	20-Nov	Emerson to provide Norway a list of Q's to consider regasrding the use of the L2 Cache	Emerson	25-Nov	Requested	
SW/Firm	20-Nov	Respond to Emerson question to considering L2 Cache.	FMC Norway	3-Dec	Requested	

Regards,

Robert Noe

Project Manager - BP Atlantis

E: robert.noe@fmcti.com

P: +1.281.591.8074

M: +1.713.732.9906

FMC Technologies, Inc.

1777 Gears Road | Houston, TX | 77067 USA

Phone: +1.281.591.4000

www.fmctechnologies.com

From: Noe, Robert
Sent: Wednesday, November 19, 2008 8:42 AM
To: Noe, Robert; McIntosh, Brian; 'Oza, Nita'; 'Fleming, Ray H'; 'Chan, Roy'; 'Young, Brian J'; Bradley, George; 'Olivares, Al [NETPWR/EMBED/AZ]'; Mostad, Geir; 'Cota, Hector [NETPWR/EMBED/AZ]'; Reiff, Greg; Woods, Matt; 'McAlpin, Tim [NETPWR/EMBED/AZ]'; Leal, JJ; Kamau, Polycarp; Nehra, Aneet
Subject: RE: Telecon to discuss BP Atlantis Communication failures

In prep for our call on Thursday AM.

A few new items need to be tabled for discussion.

1) Will FMC be providing a maintenance procedure for the SPCU Cabinet. This should be able to be released before the conclusion of the RCA.

2) The question was asked offline if it would be possible to monitor the temp in the cabinet remotely (via HMI or Smart Tool)

3) We need a high level schedule from Emerson for the rest of this investigation ending with issue of report to FMC Norway.

Please find the attached updated Action log and TPU Mapping per latest update s from meetings and emails. Emerson updates are included in the TPU Mapping tab in the notes section.

<< File: Copy of BP action log 11 19.xls >>

A new tab has been added "SN Listing #2" which includes all SN's for the SPCU 200_150 design, please review and we can discuss on Thursday's all party call.

<< File: SPCU 200_150 PN versus QN_SN.XLS >>

The following PDF attachments have been provided for Firmware/SW action item #4b (Application SW)

<< File: 500000059845 ECN update of SPC-0000023993 to revision B.PDF >> << File: 500000059845 ECN update of SPC-0000023993 to revision C.PDF >> << File: SPC-0000023993_RevC_Control system SW BP Altantis.pdf >>

The following attachments are to address the testing performed on the mezzanine boards.

Briefly, DR does not perform any specific test on the additional mezzanine cards (See attached PDF documents).

However, the TPU cards see further testing during FMC system test.

Serial card:

GE Fanuc has confirmed that they can perform RCA, and it is GE Fanuc located in US that will perform a potential RCA.

<< File: ELD60008552.pdf >> << File: PRD-0000024233.pdf >>

Regards,

Robert Noe

Project Manager - BP Atlantis

E: robert.noe@fmcti.com

P: +1.281.591.8074

M: +1.713.732.9906

FMC Technologies, Inc.

1777 Gears Road | Houston, TX | 77067 USA

Phone: +1.281.591.4000

www.fmctechnologies.com

From: Noe, Robert
Sent: Thursday, November 06, 2008 3:37 PM
To: Noe, Robert; McIntosh, Brian; 'Oza, Nita'; 'Fleming, Ray H'; 'Chan, Roy'; 'Young, Brian J'; Bradley, George; 'Olivares, Al [NETPWR/EMBED/AZ]'; Mostad, Geir; 'Cota, Hector [NETPWR/EMBED/AZ]'; Reiff, Greg; Woods, Matt; 'McAlpin, Tim [NETPWR/EMBED/AZ]'; Leal, JJ; Kamau, Polycarp; Nehra, Aneet
Subject: RE: Telecon to discuss BP Atlantis Communication failures

<< File: Copy of BP action log.11.6.xls >> << File: RPT60044087.pdf >>

Please find the attached updated log per today's conference call.

Please review updates and be prepared to provide your deliverable per the most recent commitment dates captured within.

Also find the initial draft report provided by FMC Norway, please understand this is a work in progress and will not be released formally until all of the info is available.

Here are some comments forwarded from FMC CS.

- Page 3 (Section 1.0): A summary has to be added

Exhibit 107
Part 12

- Page 5 (Section 5.1): Are we leaving the red comments on the document?

- Page 5 (Section 5.1): Board # 7, we do not think this is correct. We have removed 3 boards from Cabinet # 2 (1A, 1B and 2B) and # 3 (1A, 1B, 2B) and only 1 for Cabinet # 1 (1A). We have not replaced boards on Cabinet # 1 slot 1B. The section 4.0 is correct with the exception of board # 7 being the first board that we replaced.

Regards,

Robert Noe

Project Manager - BP Atlantis

E: robert.noe@fmcti.com

P: +1.281.591.8074

M: +1.713.732.9906

FMC Technologies, Inc.

1777 Gears Road | Houston, TX | 77067 USA

Phone: +1.281.591.4000

www.fmctechnologies.com

From: Noe, Robert
Sent: Monday, November 03, 2008 11:28 AM
To: Noe, Robert; McIntosh, Brian; 'Oza, Nita'; 'Fleming, Ray H'; 'Chan, Roy'; 'Young, Brian J'; Bradley, George; 'Olivares, Al [NETPWR/EMBED/AZ]'; Mostad, Geir; 'Cota, Hector [NETPWR/EMBED/AZ]'; Reiff, Greg; Woods, Matt; 'McAlpin, Tim [NETPWR/EMBED/AZ]'; Leal, JJ; Kamau, Polycarp; Nehra, Aneet
Subject: RE: Telecon to discuss BP Atlantis Communication failures

Please find the attached updated actions per our last "All Party" conference call, held 10/30. << File: Copy of BP action log.11.3.xls >>

Please be prepared to review the action in our internal call on Tuesday morning at 8AM HOU time. (Note: we have just had our fall time change)

FMC Norway –

1) Please be ready to review the additional comment to the Emerson Detailed RCA memo.

2) Please obtain report from Emerson to capture data and status for each of the boards currently in process.

3) Please provide an update from Data Respons in regards to the Mezzanine boards.

4) Update on SN's/ QN's report will be avail.

5) Provide board replacement availability, breakdown by mode.

FMC Houston –

1) Be prepared to provide feedback on the Norway initial report, forwarded on 10/30.

2) Schedule this weeks meetings – Brian McIntosh

Emerson –

1) Please provide an initial report capturing data and status to date for the boards you have been working with (#3 and 4-7), you need to work with FMC Norway on the format, etc...

Regards,

Robert Noe

Project Manager - BP Atlantis

E: robert.noe@fmcti.com

P: +1.281.591.8074

M: +1.713.732.9906

FMC Technologies, Inc.

1777 Gears Road | Houston, TX | 77067 USA

Phone: +1.281.591.4000

www.fmctechnologies.com

From: Noe, Robert
Sent: Wednesday, October 29, 2008 4:03 PM
To: McIntosh, Brian; 'Oza, Nita'; 'Fleming, Ray H'; 'Chan, Roy'; 'Young, Brian J'; Bradley, George; 'Olivares, Al [NETPWR/EMBED/AZ]'; Mostad, Geir; 'Cota, Hector [NETPWR/EMBED/AZ]'; Reiff, Greg; Woods, Matt; 'McAlpin, Tim [NETPWR/EMBED/AZ]'; Leal, JJ; Kamau, Polycarp; Nehra, Aneet
Subject: RE: Telecon to discuss BP Atlantis Communication failures

Please find the attached Action log and other work book items. << File: Copy of BP action log.10.28.xls >>

Items added for this update include;

- a TAB listing the ATLANTIS SN's

- Updated TPU mapping tab along with the related Cab #1 - #3 tabs. This has all additions/changes in RED. Note the recent handling and RCA activities are noted along with each board.

- An attachment to this email provided by Emerson for our review, it is titled the steps taken during RCA. << File:

Steps taken during RCA.DOC >>

We look forward to a productive call. Details below in Brian's notification email.

Regards,

Robert Noe

Project Manager - BP Atlantis

E: robert.noe@fmcti.com

P: +1.281.591.8074

M: +1.713.732.9906

FMC Technologies, Inc.

1777 Gears Road | Houston, TX | 77067 USA

Phone: +1.281.591.4000

www.fmctechnologies.com

-----Original Appointment-----
From: McIntosh, Brian
Sent: Monday, October 27, 2008 2:24 PM
To: McIntosh, Brian; 'Oza, Nita'; 'Fleming, Ray H'; 'Chan, Roy'; 'Young, Brian J'; Noe, Robert; Bradley, George; 'Olivares, Al [NETPWR/EMBED/AZ]'; 'Mikal Løken'; Mostad, Geir; 'Heimlinger, Gerhard [NETPWR/EMBED/DE]'; 'Cota, Hector [NETPWR/EMBED/AZ]'; Reiff, Greg; 'Heimlinger, Gerhard [NETPWR/EMBED/DE]'; 'Ingvild Johansen'; 'Mikal Løken'; Woods, Matt; 'McAlpin, Tim [NETPWR/EMBED/AZ]'
Subject: Telecon to discuss BP Atlantis Communication failures
When: Thursday, October 30, 2008 9:00 AM-10:00 AM (GMT-06:00) Central Time (US & Canada).
Where: Brian McIntosh's office (call in)
Importance: High

International Number-832-445-2022

Local Number-866-255-7040

Conference Code-2815914071

We will discuss status updates pertaining to the investigation.

From: Byrd, Wanda J <Wanda.Byrd@bp.com>
Sent: Thursday, November 27, 2008 1:23 PM
To: Taylor, Elton Z <Elton.Taylor@bp.com>; Gipson, Les <Les.Gipson@bp.com>; Oza, Nita <Nita.Oza@bp.com>
Cc: Byrd, Wanda J <Wanda.Byrd@bp.com>
Subject: FW: Bridging Procedure for DC121 for USE
Attach: GC787-SS-062 DC121 Test Bridging Doc FOR USE.doc

Attached is the redlined procedure with comments.

Wanda

From: Oza, Nita
Sent: Thursday, November 27, 2008 9:02 AM
To: Gipson, Les; Gardner, Alton P; Byrd, Wanda J; Taylor, Elton Z; Langlinais, Craig S; Smith, Fred (Trendsetter); Berger, Ron K (Manatee); Young, Brian J; Sheetz, David (Delta Marine Tech); Cotton, Steven L; Munstereifel, Eric J (Delta Marine Tec)
Subject: Bridging Procedure for DC121 for USE

Dear All,

I have revised the procedure for DC121.

The major change is that we do not have DC122 SEM A available. We will be running DC 122 blind for a short period whiles the **EFL on EC2 is connected to Q10C** and disconnected once the testing of the tree is complete.

Also, due to the time constraints, we will be pressure testing the Methanol lines only (CITV2 and CITV3) in this procedure as well as the hydraulic lines. The rest of the chemical lines will be pressure tested before we start the commissioning of the tree.

Kind regards

Nita Oza
Atlantis Operations
Onshore Subsea Team Lead
Office: 281 366 3901

Atlantis Asset
200 Westlake Park Blvd.
Houston, TX 77079

To: Kevin Powell / Scotty Orr, Les Gipson/ Doug Herrman
cc: Elton Taylor/Wanda Byrd, Ron Berger, Brian Young, Fred Smith

Date: 26-Nov -2008

From: Nita Oza

Trans. No.: { FILENAME * MERGEFORMAT }

Checked by:

Approved by:

Subject: Bridging Document for DC121 Tree Testing by PQ

Scope

This document summarizes the scope of DC121 tree testing and bridges between the detailed FMC testing procedure ICP10018203 and DM100047649, and the PQ Detailed Subsea Procedures necessary for isolation for the on-line wells.

The tree testing includes the following summary level operations:

- Connection of the DC121 EFLs into the E2 umbilical EDU slots Q10C (for EC2). This includes power down of the channels to the DC122.
-
- Connection of the DC122 SFL / HFL into the P2 SFL slot on the H3 UTA. This includes isolation and testing procedures to ensure that the hydraulic lines are properly connected and don't risk blowing down the HPU through a leak subsea.
- Valve operation and gate testing of the DC121 tree. Valve operation and monitoring will be performed from the DC121 HMI screen per FMC procedure.

Assumptions

- Referenced FMC procedures are located on www.ibackup.com, LOGIN: atlantissubsea, PASSWORD: dc1rov, in folder "FLS".
- DC-111, DC-113, DC114, DC122, DC123, DC124 and DC143 are operating.
- The subsea chemical commissioning skid will be used for all gate valve testing through the respective DC121 umbilical lines.
- The DC121 tree will use the EFL EDU (E2) and UTA slots (H3).

JSA Considerations

- The DC121 well share the same umbilical hydraulic supplies, Amon, and paraffin inhibitor as DC122.
- FMC Smart-tool support will be provided at Houston.
- DC121 tree control will be via the DC121 HMI screens. All appropriate personnel should be aware of condition. It is temporary to facilitate tree testing prior to arrival of the DDII back in the field.
- The DC121 tree is without a completion. There are no environmental well concerns associated with this work as it is a tree on a wellhead, with un-perforated well casing and no completion.
- Leak testing will be performed using [redacted] a surface pressure of approximately 4800 psig.
- The HPU will need to be monitored continuously during the connection of the SFL / HFL as leaks could occur that may affect the on-line wells where the H3 umbilical becomes common with the other hydraulic supplies in the field (e.g. DC122).

DC121 EFL Connection

	Steps	Time	Initials
1.	PQ CRO to confirm with Houston FMC and ROV that all are ready to begin Section 4.3.5 in FMC procedure.		
2.	Verify with the PQ and the DDII that DC-121 is ready to proceed with EFL connection.		
3.	With the ROV, locate the SCM on DC-121. Begin to trace out the DC-121 EFL's from their parking places on the SCM to the E2 UTA. Document the UTA receptacles that the EFL's are connected to (one for each channel). **EC-2 should connect to Q10C.** EC -1 will NOT be connected to Q9A at this point.		
4.	Return to the well and wait for the PQ operations team to isolate power and communications to DC-122.		
5.	On the well HMI page, note the Comm status for each SEM for every well in the field: DC-111 A_____ B_____ DC-112 A_____ B_____ DC-113 A_____ B_____ DC-114 A_____ B_____ DC-121 A_____ B_____ DC-122 A_____ B_____ DC-123 A_____ B_____ DC-124 A_____ B_____ DC-131 A_____ B_____ DC-132 A_____ B_____ DC-133 A_____ B_____ DC-134 A_____ B_____ DC-141 A_____ B_____ DC-142 A_____ B_____ DC-143 A_____ B_____ DC-144 A_____ B_____		

	Steps	Time	Initials
6.	Switch to the appropriate HMI Honeywell page that displays the TEMS and document which wells share the same lines with DC-122 and DC121		
7.	Verify that DC-121 is "Out of Service." The following steps will also power down on DC 122. DC122 will be operating blind during these steps. These steps should be coordinated closely with ROV to minimize DC122 running blind. **Note: SEM A on DC122 is not working and is not powered up in the SPCU**		
8.	Note: Only a competent person may open and/or make changes inside the SPCU.		
9.	In SPCU 1, locate the subsea line circuit breaker F15B (Line 5B). This line supplies power and communications to DC-121 and DC-122 on channel B.		
10.	Turn off the circuit breaker switch [redacted]. This will turn off power and communications on channel A to DC-121 and DC-122.		
	F15A (Line 5A)---This breaker switch should already be OFF		
11.	Turn off the circuit breaker switch F15B (Line 5B). This will turn off power and communications on channel B to DC-121 and DC-122.		
12.	Confirm on the HMI that power and comms has been lost on channel B to DC-121 and DC-122.		
13.	Communicate to the ROV that channel B has been isolated and request to proceed to connect the channel B EFL.		
14.	With the ROV, pick up the EC-2 DC-121 electrical connector from the parking position and engage it into the EC-2 slot on the SCM. This EFL supplies channel B. ROV to contact PQ and communicate to PQ that EFL is engaged		
15.	In SPCU 1 turn on the circuit breaker switch F15B (Line 5B) for the DC-121 and DC-122 SEM B to turn on power and communications on those lines.		
16.	Confirm on the HMI that power and comms. have been restored on channel B to DC-121 and DC-122.		
17.	Verify that communications to the other wells have not been adversely affected.		
18.	Request for FMC to conduct a Power and Communications check for DC-121 according to ICP10011560		

	Steps	Time	Initials

DC121 SFL Testing Preparation

	Steps	Time	Initials
19.	Prepare to perform the baseline leak off tests on the LP and HP lines for the H3 umbilical (to be used by DC121 tree). These tests are necessary to compare leakage rates against existing leakage from the operating SCMs and SFLs. These tests need to be performed at a time when no well operations are necessary (i.e. no valve or choke movements so that the umbilicals can be isolated). Note that DC122 also share the H3 umbilical.		
20.	Verify that the pumps and regulators are set per specification in the assumptions and that pressures are stabilized.		
21.	On the HPU, verify that following crossover valves are close: → LP1 crossover valve (MV-92420) → LP2 crossover valve (MV-92460) → HP1 crossover valve (MV-92520) → HP2 crossover valve (MV-92560)		
22.	Verify all umbilical pressures are stable.		
23.	Switch DC111, DC113, DC114, DC143, DC122, DC124, and DC123 wells to LP2 and HP2 hydraulic supplies.		
24.	Isolate all LP1 and HP1 umbilical headers upstream of the regulators and monitor pressure on the subsea side of isolation. Close MV-92411/413, MV-92431/433 on LP1 and MV-92511/513, MV-92531/533 on HP1.		
25.	Monitor LP1 and HP1 for 30 minutes for baseline test. Print out two trends; one showing the value at the beginning of the 30 minute period and one showing the value at the end of the 30 minute period.		

	Steps	Time	Initials
26.	Open MV-92411/413, MV-92431/433 on LP1 and MV-92511/513, MV-92531/533 on HP1 and allow umbilicals to stabilize.		
27.	Switch DC111, DC113, DC114, DC143, DC124, DC122 and DC123 to LP1 and HP1 hydraulic supplies.		
28.	Isolate all LP2 and HP2 umbilical headers upstream of the regulators and monitor pressure on the subsea side of isolation. Close MV-92451/453, MV-92471/473 on LP2 and MV-92551/553, MV-92571/573 on HP2.		
29.	Monitor LP2 and HP2 for 30 minutes for baseline test. Print out two trends; one showing the value at the beginning of the 30 minute period and one showing the value at the end of the 30 minute period.		
30.	Open MV-92451/453, MV-92471/473 on LP2 and MV-92551/553, MV-92571/573 on HP2 to allow umbilical pressures to stabilize. Baseline LP and HP testing is now complete.		
31.	Set-up subsea chemical commissioning skid for testing down the DC121 CITV2 methanol line using HW540.		
	Delete—per audio conf. not using commissioning skid or HW540—using MEOH skid and methanol		
32.	PQ CRO to confirm with Houston FMC and ROV that Section 3.0 – 3.2 and 4.0 – 4.3.3 in FMC procedure ICP10018203 are also complete and ready to move forward with SFL / HFL connection.		

DC122 SFL / HFL Connection

	Steps	Time	Initials
33.	PQ CRO to confirm with Houston FMC and ROV that all are ready to perform Section 4.3.4 in FMC procedure ICP10018203. The following steps are the PQ isolation and testing procedures necessary for SFL / HFL connection into the H3 P4 UTA slot as referenced in FMC procedure.		
34.	Subsea Deck Operator will man the HPU and locate MV-92413 (LP1A) and MV-92453 (LP2A), and MV-92513 (HP1A) and MV-92553 (HP2A). These valves will be used for emergency isolation if it is a observed that a sudden leak is experienced during DC121 HFL connection. Begin to monitor the HPU pressures.		
35.	PQ CRO will confirm that all wells remain on LP1 and HP1 supplies.		
36.	PQ CRO to communicate to Deck Operator that all wells are now on the LP1 and HP1 hydraulic supplies for emergency response if a leak occurs during connection.		
37.	PQ CRO will avoid all subsea well valve operations beginning at this time and be prepared to switch all well hydraulic supplies to LP2 or HP2 if a leak is observed on LP1 or HP1.		
38.	PQ operations team to notify the ROV that the PQ is ready for DC121 HFL / SFL installation into the P4 slot in the H3 UTA.		
39.	PQ CRO to standby until ROV notifies that [redacted] HFL / SFL is connected to the P4 slot at the H3 UTA.		
	DC-121		
40.	Once notification that connection is complete, On the HMI well screen, PQ CRO to confirm that DC111, DC113, DC114, DC122, DC123, DC124, and DC143 remain on LP1 and HP1.		

	Steps	Time	Initials
41.	Isolate the LP2A and HP2A headers upstream of the regulators by closing valves MV-92451 and MV-92453 (LP2A), and MV-92551 and MV-92553 (HP2A).		
42.	Perform a leak off test on LP2A and HP2A by monitoring the pressure. After stabilization, a successful test is achieved when a 30 minute period is observed with a pressure loss that is no greater than 5 psi. (The test will still be accepted if these minimum criteria are observed in a 30 minute period: 15 psi when connected to one tree, 25 psi when connected to two trees, and 35 psi when connected to three trees.) NOTIFY SUBSEA ENGINEER IF A LEAK IS OBSERVED. Allow LP2A and HP2A to remain isolated until leak is resolved.		
43.	Print out two trends for each supply; one showing the value at the beginning of the 30 minute period and one showing the value at the end of the 30 minute period.		
44.	Open the isolation valves MV-92451 and MV-92453 on the LP2A header, and MV-92551 and MV-92553 on the HP2A header to [redacted] umbilicals.		
	Allow umbilical to stabilize? Umbilical was not depressured.		
45.	On the HMI well screen, set DC111, DC113, DC114, DC124, DC123, DC143 to LP2 and HP2.		
46.	Isolate the LP1A and HP1A headers by closing valves MV-92411 and MV-92413 (LP1A), and MV-92511 and MV-92513 (HP1A).		
47.	Perform a leak off test on LP1A and HP1A by monitoring the pressure. After stabilization, a successful test is achieved when a 30 minute period is observed with a pressure loss that is no greater than 5 psi. (The test will still be accepted if these minimum criteria are observed in a 30 minute period: 15 psi when connected to one tree, 25 psi when connected to two trees, and 35 psi when connected to three trees.) NOTIFY SUBSEA ENGINEER IF A LEAK IS OBSERVED. Allow LP1A and HP1A to remain isolated until leak is resolved.		

	Steps	Time	Initials
48.	Print out two trends for each supply; one showing the value at the beginning of the 30 minute period and one showing the value at the end of the 30 minute period.		
49.	Place LP1A and HP1A headers back in service and repressurize umbilical by opening valves MV-92411 and MV-92413 (LP1A), and MV-92511 and MV-92513 (HP1A).		
	Open isolation valves and allow to stabilize. Umbilical was not depressured.		
50.	LP and HP hydraulic testing on the DC121 HFL is now complete.		
51.	PQ CRO to confirm with FMC Houston and ROV that Section 4.3.4 in FMC procedure is now complete.		

DC-121 Methanol Line Leak Testing

	Steps	Time	Initials
52.	Using a high pressure hose, connect the CITV2/3 line of DC-121 to a pressure transmitter so that one can monitor the pressure from the HMI.		
53.	Verify that the well DC-121 is out of service.		
54.	NOTE: METHANOL IS FULLY COMPATIBLE WITH THE UMBILICAL FLUIDS.		
55.	Record the current methanol skid header pressure: _____		
56.	NOTE: THE DC-121 CITV2/3 LINE ON THE METHANOL SKID IS P-15.		
57.	Verify that the car-seals on P-15 methanol isolations are		

	Steps	Time	Initials
	removed.		
58.	Verify that the sko-flow valve on the P-15 line is closed.		
59.	Open the needle valves on the P-15 line.		
60.	Open the sko-flow valve on the P-15 line to pressure up the umbilical to the manifold header pressure.		
61.	Close the sko-flow valve to isolate the umbilical line. Then close two manual block valves upstream of the sko-flow valve to block in the pressure.		
62.	Conduct a leak off test by monitoring the pressure via the pressure transmitter from the HMI. After stabilization, a successful test is achieved when a 30 minute period is observed with a pressure loss that is no greater than 5 psi. (The test will still be accepted if these minimum criteria are observed in a 30 minute period: 15 psi when connected to one tree, 25 psi when connected to two trees, and 35 psi when connected to three trees.) This test qualifies the CITV2/3 line on DC-121 up to the parking frame of the tree. Print out two trends; one showing the value at the beginning of the 30 minute period and one showing the value at the end of the 30 minute period.		
63.	After the test is complete, leave the valves in their current configuration (with pressure blocked in the line).		

DC122 Tree Testing --Delete This Section ???

	Steps	Time	Initials
64.	The methanol skid will be used to carry out the pressure test for the following section, using CITV2 and CITV3.		
65.	Perform testing per FMC procedure Sections 4.4-5.6.		

DC121 HFL Removal

	Steps	Time	Initials
66.	PQ CRO to confirm all HMI valves on the DC121 well are closed. Do not move any valves on DC122. Choke may remain in current position but note current position for calibration later if necessary.		
67.	PQ CRO to confirm with Houston FMC and ROV to proceed with Section 6.0 of FMC procedure (removal of HFL).		
68.	PQ CRO will confirm that all wells remain on LP1 and HP1 supplies.		
69.	PQ CRO to communicate to Deck Operator that all wells are now on the LP1 and HP1 hydraulic supplies for emergency response if a leak occurs during connection.		
70.	PQ CRO will avoid all subsea well valve operations beginning at this time and be prepared to switch all well hydraulic supplies to LP2 or HP2 if a leak is observed on LP1 or HP1.		
71.	PQ operations team to notify the ROV that the PQ is ready for [redacted] HFL / SFL removal from the P4 slot in the H3 UTA.		
	DC-121		
72.	PQ CRO to standby until ROV notifies that DC121 HFL / SFL is removed from the P4 slot at the H3 UTA.		

	Steps	Time	Initials
73.	Once notification that connection is complete, On the HMI well screen, PQ CRO to confirm that DC111, DC113, DC114, DC112, DC122, DC123, DC124 and DC143 remain on LP1 and HP1.		
74.	Isolate the LP2A and HP2A headers upstream of the regulators by closing valves MV-92451 and MV-92453 (LP2A), and MV-92551 and MV-92553 (HP2A).		
75.	Perform a leak off test on LP2A and HP2A by monitoring the pressure. After stabilization, a successful test is achieved when a 30 minute period is observed with a pressure loss that is no greater than 5 psi. (The test will still be accepted if these minimum criteria are observed in a 30 minute period: 15 psi when connected to one tree, 25 psi when connected to two trees, and 35 psi when connected to three trees.) NOTIFY SUBSEA ENGINEER OF A LEAK IS OBSERVED. Allow LP2A and HP2A to remain isolated until leak is resolved.		
76.	Print out two trends for each supply; one showing the value at the beginning of the 30 minute period and one showing the value at the end of the 30 minute period.		
77.	Open the isolation valves MV-92451 and MV-92453 on the LP2A header, and MV-92551 and MV-92553 on the HP2A header to [redacted] umbilicals.		
	Allow umbilical to stabilize? Umbilical was not depressured.		
78.	On the HMI well screen, set DC111, DC113, DC114, DC122, DC112, DC124, DC123, DC143 to LP2 and HP2.		
79.	Isolate the LP1A and HP1A headers by closing valves MV-92411 and MV-92413 (LP1A), and MV-92511 and MV-92513 (HP1A).		

	Steps	Time	Initials
80.	Perform a leak off test on LP1A and HP1A by monitoring the pressure. After stabilization, a successful test is achieved when a 30 minute period is observed with a pressure loss that is no greater than 5 psi. (The test will still be accepted if these minimum criteria are observed in a 30 minute period: 15 psi when connected to one tree, 25 psi when connected to two trees, and 35 psi when connected to three trees.) NOTIFY SUBSEA ENGINEER OF A LEAK IS OBSERVED. Allow LP1A and HP1A to remain isolated until leak is resolved.		
81.	Print out two trends for each supply; one showing the value at the beginning of the 30 minute period and one showing the value at the end of the 30 minute period.		
82.	Place LP1A and HP1A headers back in service and [redacted] umbilical by opening valves MV-92411 and MV-92413 (LP1A), and MV-92511 and MV-92513 (HP1A).		
	Open isolation valves and stabilize. Umbilical was not depressured.		
83.	LP and HP hydraulic testing on the DC122 HFL is now complete.		
84.	PQ CRO to confirm with FMC Houston and ROV that Section 6.0 – 6.1.2 in FMC procedure are now complete.		
85.	PQ CRO to allow ROV to complete Section 6.1.3 in FMC procedure (logic cap removal).		

DC122 EFL Removal

	Steps	Time	Initials
86.	PQ CRO to confirm with Houston FMC and ROV to proceed with Section 6.1.4 of FMC procedure (removal of EFLs).		

	Steps	Time	Initials
87.	On the well HMI page, PQ CRO to note the Comm status for each SEM for every well in the field: DC-111 A_____ B_____ DC-112 A_____ B_____ DC-113 A_____ B_____ DC-114 A_____ B_____ DC-123 A_____ B_____ DC-124 A_____ B_____ DC-143 A_____ B_____ DC-144 A_____ B_____		
88.	Put DC-121 "Out of Service." In the following steps DC122 will be running blind whilst the EFL on EC2 is disconnected on DC121. These steps should be coordinated closely with ROV to minimize DC122 running blind.		
89.	In SPCU 1, locate the subsea line circuit breaker F15B (Line 5B). This line supplies power and communications to DC-121 and DC-122 on channel B.		
90.	Turn off the circuit breaker switch [redacted] This will turn off power and communications on channel A to DC-121 and DC-122.		
	F15A (Line 5A)—Already turned off.		
91.	Turn off the circuit breaker switch F15B (Line 5B). This will turn off power and communications on channel B to DC-121 and DC-122.		
92.	Confirm on the HMI that power and comms has been lost on channel B to DC-121 and DC-122.		
93.	Communicate to the ROV that channel B has been isolated and request to proceed to disconnect the channel B EFL.		
94.	With the ROV, pick up the EC-2 DC-121 electrical connector from the EC-2 slot on the SCM and place in the parking position. ROV to contact PQ and communicate to PQ that EFL is disconnected.		
95.	In SPCU 1 turn on the circuit breaker switch F15B (Line 5B) for the DC-121 and DC-122 SEM B to turn on power and communications on those lines.		
96.	Confirm on the HMI that power and comms. have been restored on channel B to DC-121 and DC-122.		
97.	Verify that communications to the other wells have not been adversely affected.		

From: Sustala, Dennis R
Sent: Monday, November 23, 2009 1:31:12 PM
To: Berger, Ron K (Manatee); Huebel, Ross ; Angel, Keith F; Azulai, Lior; Babooram, Seepersad; Gipson, Les; Herrmann, Douglas T; Hughes, John D; Humphrey, Kathryn; Ward, Charlos C; Cotton, Steven L
CC: DeJohn, Kenneth P; Ragan, Frank
Subject: RE: NTL related to shut-down times and test frequencies

Attachments: Shutdown_Timing Water Injection.xls; 2008 11 19 SD Timing Table.ppt

It does appear that it would require time, significant material changes and MOC reviews to switch to the NTL methods exclusively.

This doesn't go into effect until January 1, 2010 and I believe we can remain in our approved grandfathered state as long as we want, requesting a move to the NTL later if it serves our purpose.

In the mean time, in order to start water injection in January we will still need to address and submit an Alternate Compliance Proposal for the special issues surrounding the DC102 water injector with regard to ability to test due to hydrostatic pressures, and the FSV test method and frequency which isn't part of this NTL. The BSDV is probably going to require standard monthly bubble tight testing unless we can show there will be no adverse effects from a less stringent test method/ frequency.

As a reminder - attached is the shut down times table currently approved by MMS that is currently in effect and the proposed water injection times table furnished by Steven Cotton and Honeywell Controls.

2008 11 19 SD Timing Table.ppt (280 kB)

Shutdown_Timing Water Injection.xls (26 kB)

From: Berger, Ron K (Manatee)
Sent: Monday, November 23, 2009 8:35 AM
To: Sustala, Dennis R; Huebel, Ross ; Angel, Keith F; Azulai, Lior; Babooram, Seepersad; Gipson, Les; Herrmann, Douglas T; Hughes, John D; Humphrey, Kathryn; Ward, Charlos C
Cc: DeJohn, Kenneth P; Ragan, Frank
Subject: RE: NTL related to shut-down times and test frequencies

According to this NTL, we have to choose between complying with the regulations within this NTL, or the regulations that we have been previously approved (i.e. DWOP). This NTL explicitly prohibits combining parts of previous approval letter, with parts of this NTL.

I'm actually in favor of this NTL as it gives us a little more flexibility with valve timings. However, it does have a few differences from our previous approval. A couple of those differences may make it impracticle to switch.

- It does not address Jumper FSV
- It requires dump of subsea hydraulics on all safety events (with a delay). Our current logic only dumps if there is a dual comm loss.
- Subsea ESD for MODU requires immediate closure of all valves (SCSSV may be sequenced to allow to close last). Although we do initiate closure immediately (and well will be shut-in immediately), the valves are sequenced for an orderly shut-in (e.g. to prevent backflow up umbilicals, cross communication between annulus and prod., etc.).
- Would require a TSE device within 5 ft of diverter. I'm not sure if ours is that close.
- Require PSHL UPSTREAM of diverter.

Note that our existing dropped object plan appears compliant with this NTL.

Ron

From: Sustala, Dennis R
Sent: Friday, November 20, 2009 5:37 PM
To: Berger, Ron K (Manatee); Huebel, Ross ; Angel, Keith F; Azulai, Lior; Babooram, Seepersad; Gipson, Les; Herrmann, Douglas T; Hughes, John D; Humphrey, Kathryn; Ward, Charlos C
Cc: DeJohn, Kenneth P; Ragan, Frank

Subject: NTL related to shut-down times and test frequencies

Attached is a new NTL that goes into affect on January 1, 2010.

The NTL addresses some of the issues we are currently discussing in regard shut-down times and test frequencies for the SCSSV, USV, Jumper FSV, and Boarding SDV (BSDV). Please review this upcoming NTL as you prepare language for the alternate compliance language for our request to MMS. We need to come to some conclusions fairly soon in order to get this to the MMS in a timely fashion.

<< File: 09-G36.pdf >>

Dennis Sustala
Atlantis Regulatory Compliance Coordinator
BP Exploration & Production Inc.
200 Westlake Park Blvd.
Houston, TX 77079
281-366-0898 phone

281-366-0900 fax

"CONFIDENTIALITY NOTICE: This message is intended only for the use of the individual or entity to which it is addressed and may contain information that is confidential. If you have received this message in error, please notify the sender immediately and delete the E-mail and any attachments from your computer and files. Thank you."

Document provided in native format

PRODUCTION WELLS

			Command Initiation (Mins : Secs)		
			PSL	PSD	ESD
Valve					
Topside Choke			0	0	0
Pig Launceher SDVs			0	0	0
Gas Lift SDVs			0	0	0
Subsea Choke			0	0	0
Boarding Valve			5	5	5
Production Isolation Valve	PIV/CXV	PIV	30	30	30
Circulation Crossover Valve		CXV	30	30	30
Production Master Valve (USV-1)	USV	PMV	45	45	45
Production Wing Valve (USV-2)		PWV	50	50	50
Subsurface Valve Control Fn A	SCSSV		2:00	n/a	2:00
Subsurface Valve Control Fn B			2:00	n/a	2:00

INJECTION WELLS

			Command Initiation (Mins : Secs)		
			PSL	PSD	ESD
Valve					
Topside Choke			0	0	0
Pig Launceher SDVs			0	0	0
Gas Lift SDVs			0	0	0
Subsea Choke			0	0	0
Boarding Valve			5	5	5
Injection Isolation Valve	IIV		0	0	0
Injection Master Valve (USV-1)	USV	IMV	30	20:00	30
Injection Wing Valve (USV-2)		IWV	35	20:30	35
Subsurface Valve Control Fn A	SCSSV		2:00	n/a	2:00
Subsurface Valve Control Fn B			2:00	n/a	2:00

Case 4:09-cv-01193 Document 343-18 Filed in TXSD on 04/04/12 Page 22 of 51

bp

Topsides
Shutdown Timing (Design)

Valve	STROKE TIME (est.)	RISER PSL SD (affected Riser only)		OSD (five production risers)		ESD (all risers)		
		COMMAND INITIATED	VALVE CLOSED	COMMAND INITIATED	VALVE CLOSED	COMMAND INITIATED	VALVE CLOSED	
TOPSIDE CHOKE	15 - 20 sec	0	20	0	20	0	20	
PIG LAUNCHER SDVs	17 - 20 sec	0	20	0	20	0	20	
GAS LIFT SDVs	15 - 20 sec	0	20	0	20	0	20	
SUBSEA CHOKE	<30 sec	0	30	0	30	0	30	
BOARDING VALVE	10 - 20 sec	5	< 45	5	<45	5	<45	
PIV / CXV	< 40 sec	30	1:10	30	1:10	30	1:10	
USV	17 - 20 sec	60	1:10	20:00	20:20	20:00	20:20	
SCSSV	< 15 sec	2:30	2:45	N/A	N/A	N/A	N/A	
SUBSEA HYDRAULIC POWER UNIT (COMMUNICATIONS PRESENT)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	
SUBSEA HYDRAULIC POWER UNIT (COMMUNICATIONS FAULTED)	N/A	ALARM ONLY	N/A	ALARM ONLY	N/A	ALARM ONLY	N/A	

- Timing figures are approximate based on valve travel times.
- Operator may delay closure of SCSSV 5 minutes, up to 1 hour.
- If a communications failure occurs during an ESD event, the Hydraulic Power Unit is immediately tripped to bleed hydraulic pressure.

gulf of mex co
GoM SPU
strategic performance unit

bp

Gulf of Mexico SPU

Atlantis Engineering Workflow Process

0	11/24/09	Issued for Use	Ken DeJohn	Asset Manager
Rev	Date	Document Status	Custodian	Approver

Document Control Number	Organization ID	Sector ID	Discipline ID	Document Class	Sequence Number	Document Revision
	1440	10	GE	RP	1007	0

BPEP_ABB_03500136

Case 4:09-cv-01193 Document 343-18 Filed in TXSD on 04/04/12 Page 24 of 51

Atlantis Engineering Workflow Process

TABLE OF CONTENTS

1.0 PURPOSE

2.0 GUIDANCE
- 2.1 OMS
- 2.2 INTEGRITY MANAGEMENT
- 2.3 MPCP/SPCP

3.0 CONSIDERATIONS
- 3.1 QUALITY
- 3.2 MOC
- 3.3 PERSONAL SAFETY
- 3.4 RISK ASSESSTMENT/PROCESS SAFETY
- 3.5 HAZARD MANAGEMENT
- 3.6 EPMS CONTRACTOR
- 3.7 ACTION TRACKING
- 3.8 INTEGRATED FIELD PLANNING (IFP)
- 3.9 EA/TA
- 3.10 STANDARDS
- 3.11 LESSONS LEARNED
- 3.12 REGULATORY
- 3.13 MARINE
- 3.14 DOCUMENTATION
- 3.15 CONTINUOUS IMPROVEMENT
- 3.16 SYSTEM HANDOVER
- 3.17 PRODUCTION
- 3.18 ENVIRONMENTAL
- 3.19 PROCUREMENT & SUPPLY CHAIN MANAGEMENT (PSCM)

4.0 ENGINEERING WORKFLOW- COMMON PROCESS- MPCP/SPCP
- 4.1 MPcp
- 4.2 SPcp

Case 4:09-cv-01193 Document 343-18 Filed in TXSD on 04/04/12 Page 25 of 51

Atlantis Engineering Workflow Process

1.0 Purpose

The purpose of this document is to outline the workflow process for engineering on the Atlantis asset. It will serve as an "execution plan" for engineering activities on the Atlantis asset. Atlantis will utilize work processes and procedures either generated by the group, segment or the SPU. This will insure the safety, integrity and quality of the modifications, large and small, made on the Atlantis facility.

2.0 Guidance

2.1 OMS

The Gulf of Mexico SPU is operating under the Operating Management System (OMS). All engineering activities on Atlantis should be done in accordance with the OMS framework. The OMS Navigator has been created as a resource for OMS information and documentation and can be found as follows:
http://omsnavigator.bpweb.bp.com/Pages/Navigator.aspx

2.2 Integrity Management (IM)

The GOM SPU adopted the IM Standard at the end of 2008. Many of the elements of the IM Standard, such as competency, training, procedures, etc. have been incorporated into OMS. The remaining IM related items have been incorporated into the new BP Group Defined Practice for Integrity Management, GDP 5.0.

2.3 MPcp/SPcp

Major Project Common Process (MPcp) is the common process guideline for managing major projects larger than $250 MM net. Small Project Common Process (SPcp) has been recently developed for smaller projects or Brownfield projects. MPcp will provide guidance for the large projects; SPcp will provide guidance for smaller projects.

3.0 Considerations

3.1 Quality

Quality is a critical element in the engineering, procurement, construction and operation of the GOM SPU assets. The quality plan for Atlantis is 1440-10-QA-RP-1000.

3.2 MOC

Management of Change (MOC) is a critical element of OMS, Element 4.2. Changes can apply to plant, process, or people. Changes can be permanent, temporary or emergency. The GOM SPU is using the electronic Bizflow MOC System developed for the GOM SPU.

Case 4:09-cv-01193 Document 343-18 Filed in TXSD on 04/04/12 Page 26 of 51

- GOM SPU Guideline- The guideline for implementation of MOC in the GOM SPU is 2010-T2-EA-PR-000001.

- Group Recommended Practice for MOC- The GOM SPU MOC guideline is in accordance with GRP 4.2-0001, BP Group Recommended Practice for Management of Change

3.3 Personal Safety

Principle: BP entities provide a safe working environment by systematically identifying and assessing safety hazards and mitigating potential risks to people.

Personal safety is Element 3.2 of OMS. For the GOM SPU, the **"GOM SPU Safe Practices Manual"** shall be followed.

3.4 Risk Assessment/Process Safety

Risk Assessment (Element 3.1) and Process Safety (Element 3.3) are critical elements related to engineering.

- GDP-3.1-0001- Group Defined Policy for "Assessment, Prioritization and Management of Risk"
- 2010-T2-IM-RP-000010- "Major Hazard Risk Policy" in place for the GOM SPU
- DWGOM-GP 76-0099- GOM SPU STP for "Major Hazards & Risk Register Development"
- GP 48-01- ETP for PHSSER
- GP 48-02- ETP for Hazop
- GP-48-03- ETP for LOPA
- GP 48-04- ETP for Inherently Safer Design (ISD)- GP 48-04 is a Group Defined ETP; use of this ETP is mandatory for new projects or modifications to existing projects. Atlantis is equipped with many ISD features which must be maintained using the MOC Process. ISD should be considered in the design of modifications or new projects.

3.5 Hazard Management

Many HSE Studies have been conducted during the project phase of Atlantis, such as Hazop/LOPA, Fire & Explosion, Dropped Objects, etc. These HSE studies will need to be periodically revalidated and maintained Action items from these studies have either been closed or a listed in S&OI Action Tracker. Any new changes to the facility should be reviewed for the impact on the results, conclusions and actions from these studies such as Fire Studies, Explosion Studies, Dropped Object Studies, etc.

Case 4:09-cv-01193 Document 343-18 Filed in TXSD on 04/04/12 Page 27 of 51

A list of the Atlantis studies which will be maintained and validation timing is included in the following document: Atlantis Hazard and Risk Evaluation Plan, 1440-10-HS-RP-6041.

3.6 EPMS Contractor

A new Engineering & Project Management Services (EPMS) contractor has been set up for use on Brownfield Projects in the GOM SPU. The EPMS contractors have been fully vetted for world-wide use. All of the quality procedures and programs under the EPMS umbrella will be utilized for these projects in the GOM SPU.

3.7 Action Tracking

Actions which are generated from incidents will be managed inside Traction. Actions which are generated from Formal Safety Assessments (FSA) should be managed in the "GOM Action Tracker". Approvals and notifications will be as determined by the GOM SPU Major Hazards Risk Management Policy. The guideline for the tracking of actions in the GOM SPU is CD #UPS-US-SW-HSE-DOC-00114-2.

3.8 Integrated Field Planning Common Process (IFPcp)

IFP is the tool which is utilized for managing the planning and execution of all field activities. IFP is a multi-disciplinary process which evaluates, integrates, schedules and aligns field activities. The Atlantis engineers will participate in the IFP Process, identifying schedules and resources required for their projects and activities. Resources related to IFP can be found at the following website:
http://epsegmentcommonprocess.bpweb.bp.com/Default.aspx?tabId=63

The following IFP meetings will be held:

6/12 Meeting- Every Other Week
Review: In-Progress activities, those starting in 2 weeks, draft 6 week schedule, draft 12 week schedule

1Q Meeting- Every Other week
Review 1Q schedule, identify activities that need potential contingency plans, discuss new plans, discuss chages to plans, and capture opportunities/constraints.

8Q Plan- Quarterly
Review 8Q schedule, highlight any potential interface issues, look for optimization opportunities and potential clashes. Provide clarity on prioritization of activities

Case 4:09-cv-01193 Document 343-18 Filed in TXSD on 04/04/12 Page 28 of 51

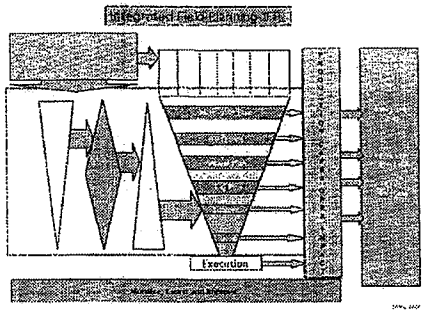


Figure 1- IFP cp

3.9 EA/TA

BP has established a number of Technical Authorities (TA), Segment Technical Authorities (SETA), Engineering Authorities (EA) and Chief Engineers, for all of their assets worldwide. A EA/TA Register for the GOM SPU, 2010-T2-EA-RR-000001, defines the EA/TA individuals, responsibilities, and guidelines for EA/TA involvement based on risk and deviations from standards.

3.10 Standards

Over the last 4 years, a series of Engineering Technical Practices (ETPs) have been developed embedding lessons learned from the segment and the group. These ETPs are all included in the "ETP Library": **http://etplib.bpweb.bp.com/home.jsp**

The SPUs developed Site Technical Practices (STPs) to fill gaps or to meet site specific conditions. These STPs are also included in the ETP Library.

These ETPs and STPs should be used for new projects and modifications to existing platforms. Some of the ETPs are still in draft form. Once an ETP is issued final, the assets have one year to confirm they are in compliance with the "shall statement" in the ETP or the gap should be covered by a MOC. The SPU EA must approve all deviations from "shall statement" in ETPs.

The use of the following seven "Group Defined ETPs" is mandatory.

GP 32-30 - Inspection and Testing of Equipment In Service
GP 43-49 - Pipeline Integrity Management Systems (PIMS)
GP 48-01 - HSSE Review of Projects (PHSSER)
GP 48-02 - Hazard and Operability (HAZOP) Study
GP 48-03 - Layer of Protection Analysis (LOPA)

Case 4:09-cv-01193 Document 343-18 Filed in TXSD on 04/04/12 Page 29 of 51

3.11 Lessons Learned

Lessons Learned is a key element in both OMS and MPcp. Element 2.4 in OMS is Organizational Learning. A Knowledge Management Plan is a key MPcp deliverable. Many systems and processes exist to capture and transfer lessons learned. The important lesson learned systems for the GOM SPU are as follows:

a) High Value Learning- For significant incidents or Hipo near misses, a HVL one-pager will be completed and shared with all of the SPUs worldwide. Each asset will share information with their employees.

b) GOM HSSE Lesson Learned Webpage- This webpage tracks GOM and worldwide incidents and sends periodic e-mails to stakeholders in the GOM SPU. A tracker spreadsheet is included at this website to capture and track these lessons for all of the assets.
http://gom.bpweb.bp.com/operationsandhsse/hsse/lessonslearned/Pages/incidentsandLearning.aspx

c) Shared Learning System (SLS)-This is part of the ETP Library; lessons and comments related to an ETP can be input to this site:
http://etpsl.bpweb.bp.com/etp/etplink.nsf/homepage/Yes?OpenDocument&Click=$refresh

d) E-Clips- E-Clips is an open question and answer forum. Database on website includes all previous Q&As, lots of lessons learned for projects, engineering and operations.
http://oe.bpweb.bp.com/eclips5/default.aspx

e) Engineering Networks- The engineering networks will play a large role in capturing and sharing lessons leaned. The networks
https://eptl.bpglobal.com/C1/C15/Engineering%20Networks/default.aspx

3.12 Regulatory

Many of the Atlantis documents were submitted and approved as a part of permits required by the regulatory agencies during the design of the facility. For any changes to these MMS, ABS or USCG regulated systems, these documents must be resubmitted and reapproved by these regulatory agencies. The regulator advisors will provide the guidance on the need for permit modifications. The GOM SPU Regulatory Website is as follows:
http://gom.bpweb.bp.com/operationsandhsse/hsse/regulatory/Pages/regulatory.aspx

The Regulatory advisors for Atlantis are:
Atlantis Regulatory Advisor- SPA for the MMS (currently Dennis Sustula)
Marine Regulatory Advisor- SPA for the ABS/USCG (currently Grant Johnson)

3.13 Marine

- Atlantis Floating Structure- Atlantis is a floating GVA semisubmersible hull, with an ABS Class Certificate, designated as a "Floating Offshore Installation (FOI)" under ABS rules. The unit is built to USCG rules, as

Case 4:09-cv-01193 Document 343-18 Filed in TXSD on 04/04/12 Page 30 of 51

required for installation in the GOM. All changes to the facility must receive the proper ABS, USCG and MMS approvals.

- Marine Authority- The Marine Authority in the GOM SPU is Neil Cramond. All modification and risks associated with the marine system shall be approved by the Marine Authority.

- Weight Management- Weight management is critical to maintain the "Lightship Weight". Lightship Forms are required for all MOCs. The Barge Supervisor should be on review for all technical MOCs. The weight control procedure approved by the MMS shall be followed: Offshore Weight Control Procedure, Document # 1440-70-IG-PR-1404

3.14 Documentation

The GOM SPU uses Documentum as the repository for all documentation and data. Instrumentation data is stored in In-Tools. Smart Plan Foundation (SPF) is used as a tag-based search engine in Documentum, In-Tools and other databases to expedite searches. The guideline for documentation for the GOM SPU is included in 2020-T2-DM-PR-PR-000003. The "Asset Document Controller" is the gatekeeper asset to maintain the integrity of the documentation.

As individual projects are completed, the documentation is handed over to Operations as outlined in 1400-85-IM-SP-8700, which defines the formats, timing and condition of the documentation as it is handed over to Operations. As-builting is required for the indicated drawings prior to handover.

As changes to plant and documentation are made by Operations, the MOC Process will manage the procedures and timing for the update of this documentation.

3.15 Continuous Improvement

Continuous Improvement (CI) is an important tool to improve operating performance through defect identification, measurement and elimination. CI is OMS Element 6.8. The engineering networks are working a number of CI Projects.

3.16 System Handover

Handover of systems to Operations is covered under GP 32-20, Site Inspection, Testing, and Commissioning of Plant. Guidance on Certification (GOC) is the preferred commissioning system within BP and GOC was used on the Atlantis Project.

- For the larger modifications, like waterflood, pigging pump, LDHI, etc, GOC will be used.
- For the smaller modifications, the PSSR in the MOC process will be used for the handover of facilities.

PSSRs will be done for all modifications.

Case 4:09-cv-01193 Document 343-18 Filed in TXSD on 04/04/12 Page 31 of 51

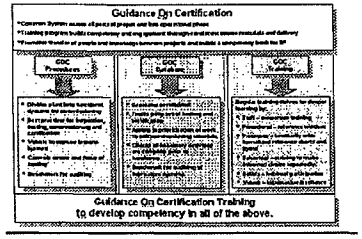


Figure 2- GOC Scematic

3.17 Production

Production losses are a key lever to increase production. Engineers will be involved in establishing capacity and determining root cause for upsets. The tools which are in use to establish capacity and work productions upset are PEI and PUR.

a) Production Efficiency Improvement (PEI)
http://epsegmentcommonprocess.bpweb.bp.com/Default.aspx?tabId=64
b) Production Upset Reporting (PUR)
http://pur.bpweb.bp.com/bpxp/default.htm

A reliability program is the key to capturing production losses. The reliability program will include RCFAs, run time monitoring, maintenance record review, etc. Atlantis has develop a procedure to conduct RCFAs; Root Cause Failure Analysis guideline, 1440-85-HS-RP-0005.

3.18 Environmental

The Atlantis PQ obtained certification for ISO 14001, Environmental Management System (EMS), after first oil. The facility is also under a number of regulations for the discharge of emissions into the air, water, or land. Consult the appropriate environmental coordinator prior to any operations or modification which could impact environmental performance as follows:

Air Coordinator (currently Megan Parks)
Water Coordinator (currently Carlos Moreno)
Waste Coordinator (currently Tracy Dyer)

The GOM SPU Environmental Website is as follows:
http://gom.bpweb.bp.com/operationsandhsse/hsse/Environmental/Pages/environmental.aspx

Case 4:09-cv-01193 Document 343-18 Filed in TXSD on 04/04/12 Page 32 of 51

3.19 Procurement & Supply Chain Management (PSCM)

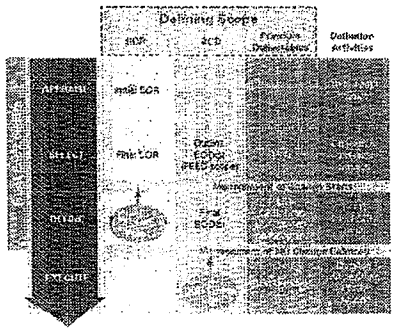
Atlantis engineering and operations personnel will follow all of the PSCM policies and procedures, including the Delegation of authority for commitments. For any questions, the PSCM Advisor should be contacted.

The Gulf of Mexico SPU Procurement and Supply Chain Management (PSCM) Team has overall responsibility for the Procurement and Supply Chain Management of all operational requirements for the Deepwater SPU operating in the Gulf of Mexico. Primary areas of accountability of the GoM PSCM team include the development and implementation of PSCM policy, processes and procedures (including ensuring compliance with the PSCM Common Process); third party spend analysis; procurement strategy development (ensuring application of STARS principles); market awareness and survey; pre-qualification; RFQ development; bid evaluation procedures; bid receipt; bid clarification and negotiations; contract drafting and award; maintenance of the procurement audit trail; and assistance in the development and implementation of Supplier Performance Management (SPM) processes.

The site for GOM PSCM is as follows:
http://houstonscm.bpweb.bp.com/default.aspx?tabid=93

4.0 Engineering Workflow

4.1 Major Project Common Process (MPcp)- All major projects, greater than $250 MM net shall used MPcp. Figure 3 shows the "scope definition" flow through the major projects as outlined in the "Engineering and Quality Management Guideline". Figure 4 shows the guideline which are available at the MPcp site for download. For Atlantis, only the large rpojecvt spinoffs, such as Phase 2 or Phase 3, will be large enough to follow full MPcp.
http://epsegmentcommonprocess.bpweb.bp.com/Default.aspx?tabid=56



Case 4:09-cv-01193 Document 343-18 Filed in TXSD on 04/04/12 Page 33 of 51

Figure 3- MPcp Process

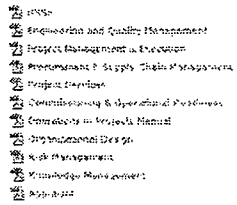


Figure 4- MPcp Guideline available at MPcp website

4.2 Small Project Common Process (SPcp)- For the majority of the Brownfield projects on Atlantis, SPcp will be utilized. Two documents has been issued to document the SPcp process:

- E&P Small Project Common Process (SPcp) Overview- Revision #2 dated 5/15/09
- SPcp Organizational Design Guidance- Revision #2 dated 5/15/09
- SPcp Site: https://epti.bpglobal.com/C3/SPcp/default.aspx

SPcp is a stage gated process which includes the following steps:

- Step 1- Categorization- Categories are determined by project size and complexity; the method for classification is described in the SPcp overview. Most of the Brownfield projects on Atlantis will be Category 5 or Category 6. Technically, Category 6 Projects, less than $500,000, are not covered under SPcp but CVP deliverables may still be assigned for these very small projects, which will be primarily managed under the MOC System.

- Step 2- Implement CVP Stage Activities- CVP deliverables will be selected from the picklists in "SPcp Overview" and agreed by the gatekeeper. These CVP deliverables could include SOR, BOD, PEP, etc as agreed with the gatekeeper.

- Step 3- Self Verification- Guidelines and tools for self-verification are included in the "SPcp Overview" and SPcp site. These tools could include a Dashboard and a downloadable self-verification tool, which can be found at the SPcp site. The gatekeeper and the SPU requirements will determine the method of self verification.

Case 4:09-cv-01193 Document 343-18 Filed in TXSD on 04/04/12 Page 34 of 51

- Step 4- Gatekeeper Review- The role of the gatekeeper is critical to the proper performance management of small projects. The SPcp site and documentation provides guidance to gatekeepers.

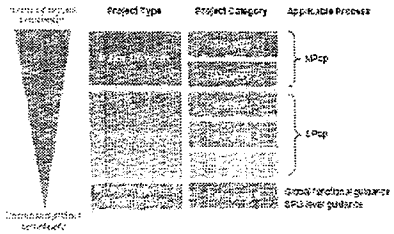


Figure 5- Project Classification

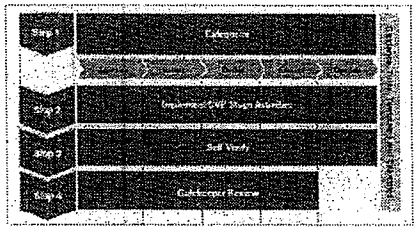


Figure 6- SPcp Workflow

Case 4:09-cv-01193 Document 343-18 Filed in TXSD on 04/04/12 Page 35 of 51

Atlantis PQ Facilities Engineering -Approval Matrix

Deliverables	Discipline		BP Engineering Manager (or designee) Note 1	BP Discipline Engineer	BP Engineering Authority (EA)	BP Technical Authority (TA)		BP Project Engineer- M&E or ASTh Projects		MMS Approval	ABS/USCG Approval	As-Built Required	Redline Set Required	Comments
Deviations to ETP/STPs- Shall Statements	Standards				A	A								
Deviations to ETP/STPs- Other than shall statements	Standards					A								
Process Flow Diagrams (PFDs)	Process		A							No	No	Yes	No	
Process & Instrument Diagrams (P&IDs)	General		A							No	Some	Yes	Yes	Marine P&ID approved by ABS
D&IDs- HVAC Schematics	General		A							No	Yes	Yes	Yes	
Safety Flows Diagrams (SFD)	General		A							Yes	No	Yes	No	
Layouts & Egress Plans	General		A							Yes	Yes	Yes	No	
Safety Plans	General		A							Yes	Yes	Yes	No	
Electrical One Lines	Electrical			A						Yes	Yes	Yes	No	
Electrical Area Classification Drawings	Electrical			A						Yes	Yes	Yes	No	
Electrical Detailed Drawings- Plans, wiring schematics, etc.	Electrical			A						No	No	Yes	No	
Fire & Gas Drawings	Electrical			A						No	Some	Yes	No	
Cause & Effect Drawings	Automation			A						No	Some	Yes	No	
SAFE Charts	Automation		A							Yes	No	Yes	No	
Logic Drawings	Automation			A						No	No	Yes	No	
Structural Primary & Secondary Drawings	Structural			A						Yes	Yes	Yes	No	PE Stamp may be required
Structural Detailed Drawings	Structural			A						No	No	No	No	PE Stamp may be required
InTools Database	Instrument			A						No	No	Yes	No	
Loop Drawings	Instrument			A						No	No	Yes	No	
Instrument Detailed Drawings	Instrument			A						No	No	Yes	No	
Line List	Mechanical		A							No	No	Yes	No	
Specialty Item List	Mechanical		A							No	No	Yes	No	
Equipment List	Mechanical		A							No	No	Yes	No	
PDMS Database	Mechanical							A		No	No	No	No	
Piping Isometrics	Mechanical							A		No	No	No	No	
Piping Plans	Mechanical							A		No	No	No	No	
Data Sheets (Mechanical, electrical, instrument, etc.)	Misc.			A						No	No	Yes	No	
Material Requisitions for Quote	Procurement							A		No	No	No	No	
Material Requisitions for Purchase	Procurement							A		No	No	No	No	
Work Packages	Misc									No	No	No	No	

Note 1- Engineeering Manager may formally designate approval authority for projects or CTRs

11/24/2009

BPEP_ABB_03560148

Case 4:09-cv-01193 Document 343-18 Filed in TXSD on 04/04/12 Page 36 of 51

bp

DC3

FMC/Protec

Quality Notification, Test HPUs not per Specification, HPU, Pressure Regulated Test Assembly, Part No P1000058784, SN 3557

(QN200143677)

Atlantis

DOCUMENT NUMBER: 1440-38-QA-CR-3000

REV	DATE	DOCUMENT STATUS	ORIGINATOR	CHECKED	BP APPROVAL
A	12/09/09	For Review and Comment (Rev A)			

Document Control Number	Job Number	Area/Unit Designation	Discipline Code	Document Type	Sequence Number	Document Revision
	1440	38	QA	CR	3000	A

FMC Technologies

QUALITY NOTIFICATION - NCR in Procurement

REFERENCES

Notification	: 200143677	Coding	: NCR Goods Receipt: FMC Location
Creation date	: 11/04/2009	Reported by	:
Coordinator	: Callie Fulford		
Project	: GH-BPAO BP Atlantis Operations Group	Status/date completed: Outstanding notification	
Ref.notification	:	Reference no	:
Purchasing Doc	:	Vendor	: 105425 PROTEC

PRODUCT DETAILS

Material no.	: P1000058784 Rev Lvl : B	Serial no.	: 3557	Plant	:EWHG
		Batch	:	V.Batch	:
Material desc.	: HPU, PRESSURE REGULATED, TEST, ASSEMBLY,				
Compl. Qty	: 0	Ref Qty	: 0		

DESCRIPTION: Test HPUs not per Specification

Test HPUs, 2 qty, S/Ns 3557 and 3558 are not to specification.

1. Drawings on DBI, DA100067540 Rev A and DA100067695 Rev C, which are Protec P3-47831 Rev 1 and P1-47831 Rev 1 drawings, respectively do not match delivered equipment. The equipment was built to supplier drawings P3-47831 Rev 2 and P1-47831 Rev 3. FMC never received updated drawings for approval.
2. Nameplate does not include revision number of part as required per Q00501.
3. Nameplate does not include month and year of manufacture, design sling angle, and certificate number per SPC10029113 Section 9.
4. Certificate of Compliance does not include revision number of part as required in Q00303.
5. Valves M5, M6, M7 have a loose nut on the valve. These nuts serve no purpose since they cannot be tightened.
6. Chrome on service filter gauge is rusting.

FINDING AND ACTIONS for Defect 0001

Object part : Test HPU

Defect type: Process / Procedure insufficient

MRB/CONCLUSIONS

Date:11/04/09

Participants:Kira Hevle, Robert Shelton

1. Supplier to send latest/as-built autocad drawings to FMC Project Engineer (kira.hevle@fmcti.com) for approval and for inclusion in DBI P1000058784. Project Engineer to revise drawings DA100067540 and DA100067695 and submit to client (BP) for approval. Drawings to include as-built configuration as well as incorporate BP comments, attached.
For DA100067540 this includes addition of est. assy weight, addition of reference to FMC P/N P1000058784, addition of reference to panel drawing DA100067695, and addition of reference to schematic drawing DA100067541.
For DA100067695 this includes addition of reference to GA drawing DA100067540.
2. Supplier to create new nameplates with requested information per Q00501 and SPC10029113.
3. See 2)

FMC Technologies

4. Supplier to submit Certificate of Compliance including P/N P1000058784 Revision C.
5. Supplier to advise FMC on function of the nuts and procedure for either tightening or removing.
6. Supplier to be made aware of rusted chrome on service filter gauge, and suggest mitigation for future; damage is only cosmetic so for this instance, will be accepted as is.

By: Kira Hevle, Project Engineer, Controls Product Group, ext 2108, 11/5/2009

Approved by QA
Robert Shelton - Ext. 4561
Controls QE
November 5, 2009

Emailed Protec and SDE Mike Smith.
Lain Grant
11/09/09

Per Kira this is acceptable
11/20/09

Follow-up/closing:Test HPUs not per Specification

---

sent to BP for review and approval
Emily Schroeder X2582
12-7-09

Root Causes for Defect 0001

Root Cause text 1 :

CORRECTION/CORRECTIVE ACTIONS For Notification

Task 1: Engineering Investigation **Status: Task Completed**

Task Responsible : Kira Hevle Planned start : 11/04/2009 Due date : 11/06/2009

Dispositon QN

1. Supplier to send latest/as-built autocad drawings to FMC Project Engineer (kira.hevle@fmcti.com) for approval and for inclusion in DBI P1000058784. Project Engineer to revise drawings DA100067540 and DA100067695 and submit to client (BP) for approval. Drawings to include as-built configuration as well as incorporate BP comments, attached. For DA100067540 this includes addition of est. assy weight, addition of reference to FMC P/N P1000058784, addition of reference to panel drawing DA100067695, and addition of reference to schematic drawing DA100067541. For DA100067695 this includes addition of reference to GA drawing DA100067540.
2. Supplier to create new nameplates with requested information per Q00501 and SPC10029113.

FMC Technologies

3. See 2)
4. Supplier to submit Certificate of Compliance including P/N P1000058784 Revision C.
5. Supplier to advise FMC on function of the nuts and procedure for either tightening or removing.
6. Supplier to be made aware of rusted chrome on service filter gauge, and suggest mitigation for future; damage is only cosmetic so for this instance, will be accepted as is.

By: Kira Hevle, Project Engineer, Controls Product Group, ext 2108, 11/5/2009

Task 2: Quality Investigation — Status: Task Completed

Task Responsible : Robert Shelton | Planned start : 11/05/2009 | Due date : 11/09/2009

QA Appoval

Approved by QA
Robert Shelton - Ext. 4561
Controls QE
November 5, 2009

Task 3: Inform Vendor — Status: Task Completed

Task Responsible : Christopher (Lain) Grant | Planned start : 11/06/2009 | Due date : 11/10/2009

Inform Vendor

No vendor information listed on QN.
11/6/09

Task 4: Inform Vendor — Status: Task Completed

Task Responsible : Christopher (Lain) Grant | Planned start : 11/06/2009 | Due date : 11/10/2009

Inform Vendor

Emailed Protec and SDE Mike Smith.

Task 5: Customer — Status: Task Outstanding

Task Responsible : Emily Schroeder | Planned start : 11/20/2009 | Due date : 11/23/2009

BP Approval Needed

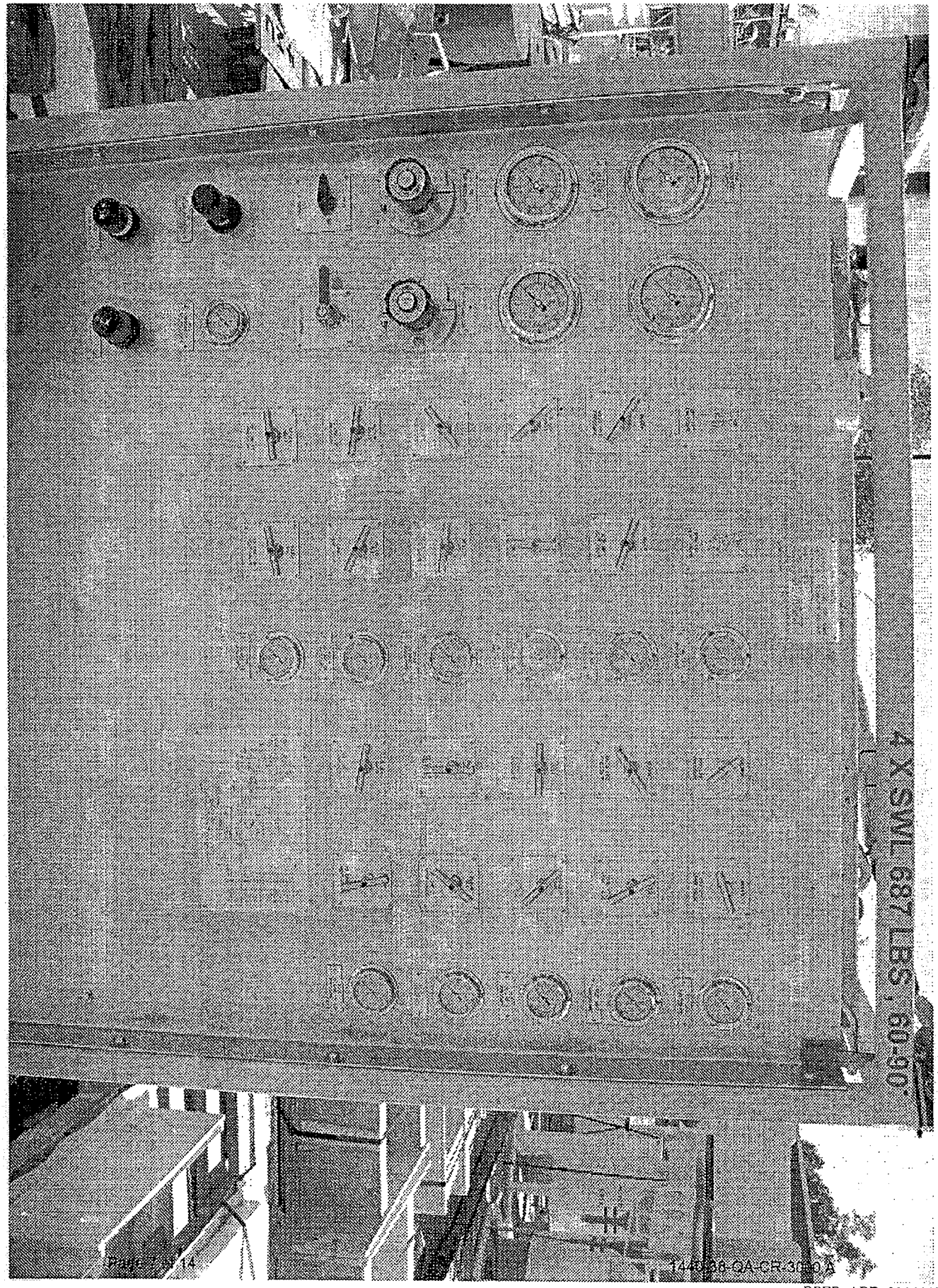
ATTACHMENTS

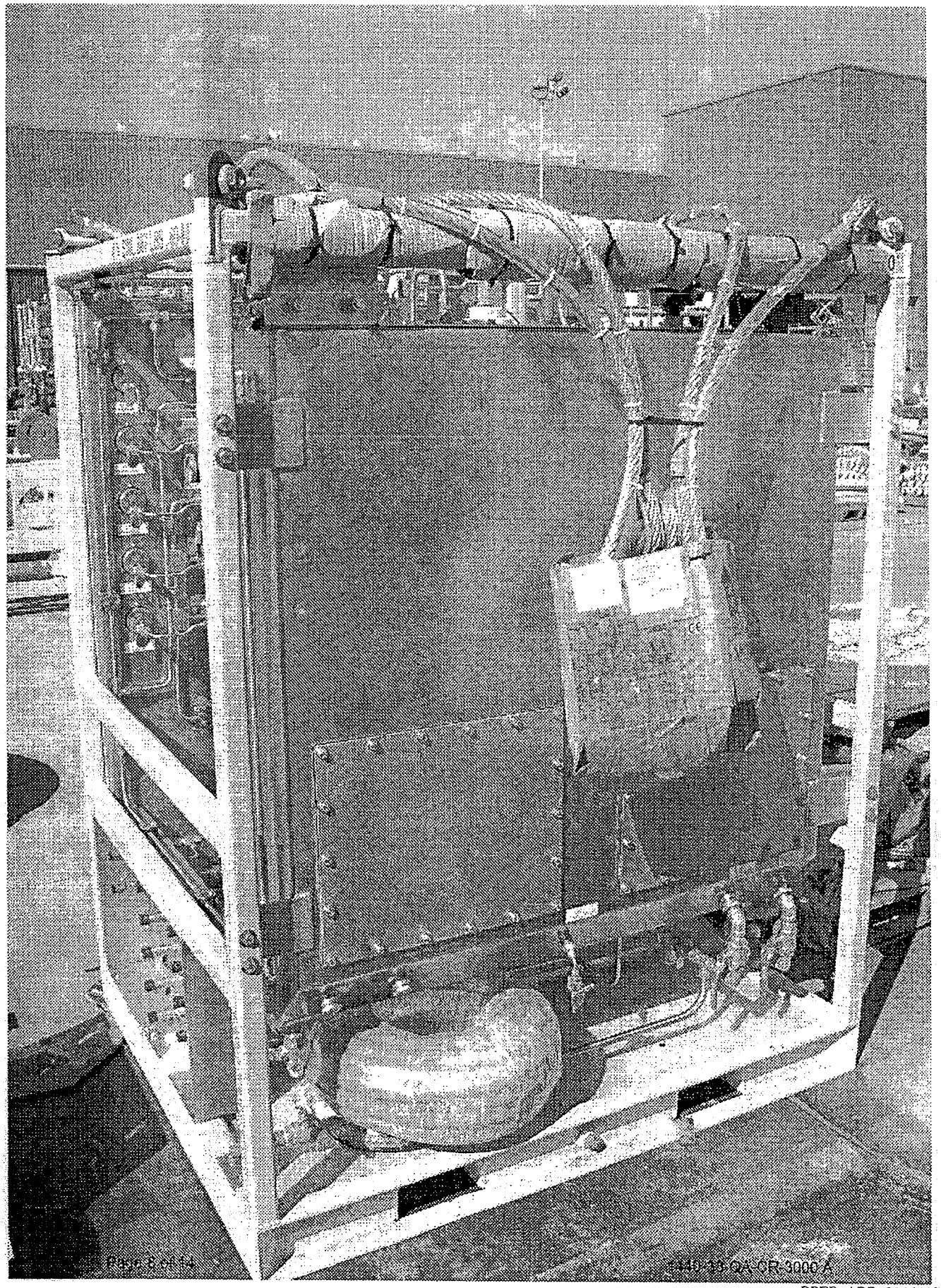
1. Test HPU P1000058784 SN3557_2
2. Test HPU P1000058784 SN3557_9
3. Test HPU P1000058784 SN3557_15
4. Test HPU P1000058784 SN3557_17
5. (BPAT3626A) 1440-30-SB-DG-3012 Rev A Cd 2 (DA10006
6. (BPAT3625A) 1440-30-SB-DG-3011 Rev A Cd 2 (DA10006
7. panel nut removal, Doc. 209, Rev. 1

FMC Technologies

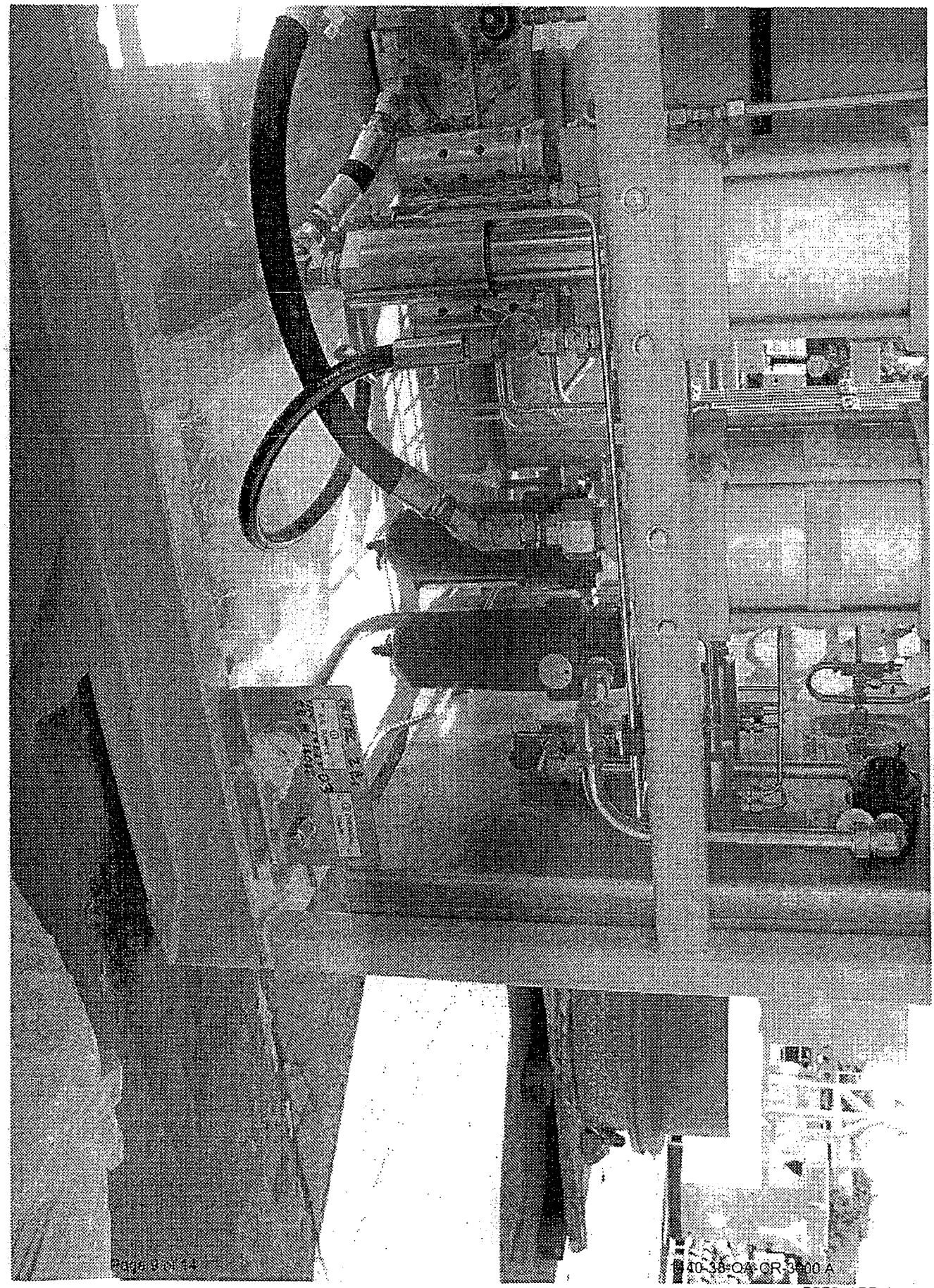
8. SERIAL No. 3557 & 3558, COC

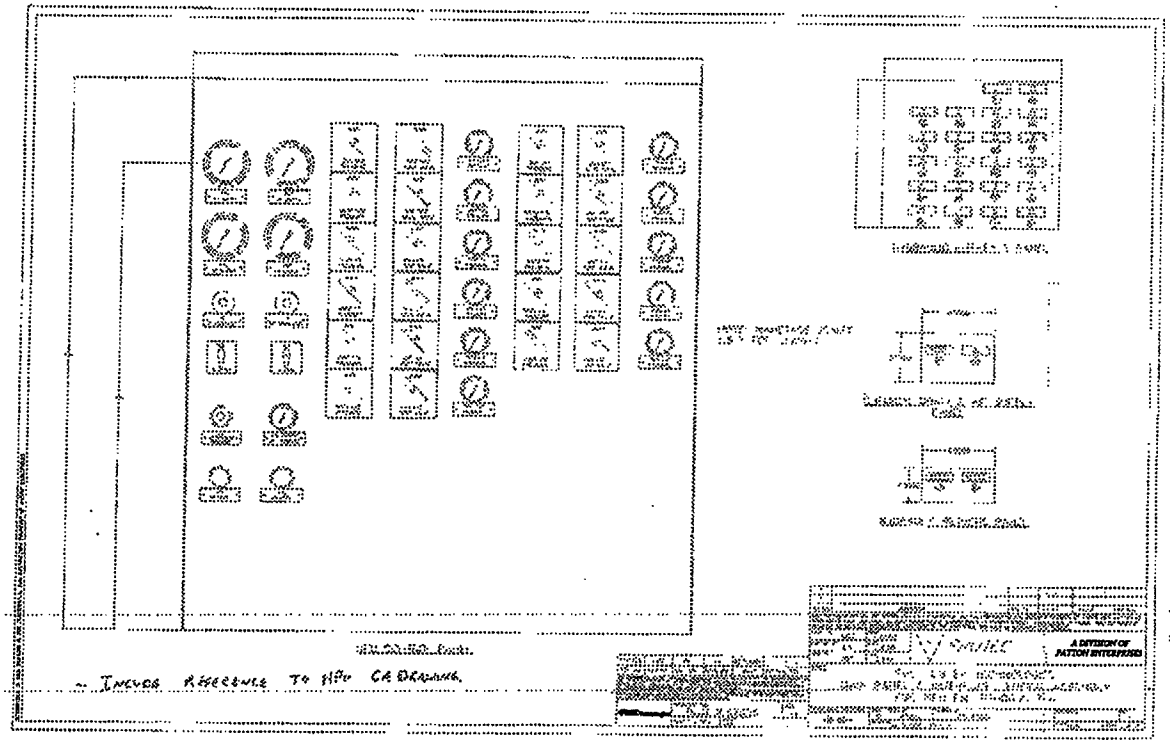
End of report


4 XSWL 787 SET 09-00



BPEP_ABB_01464425





Code 1 ☐ No Further Review Required, All Comments On Previous Submissions Have Been Incorporated
Code 2 ☒ Review and Resubmit Work May Proceed Subject To Incorporation Of Changes Indicated
Code 3 ☐ Review and Resubmit Work May Not Proceed
Code 4 ☐ Reviewed Without Comments
Signed: Date: 9/22/09

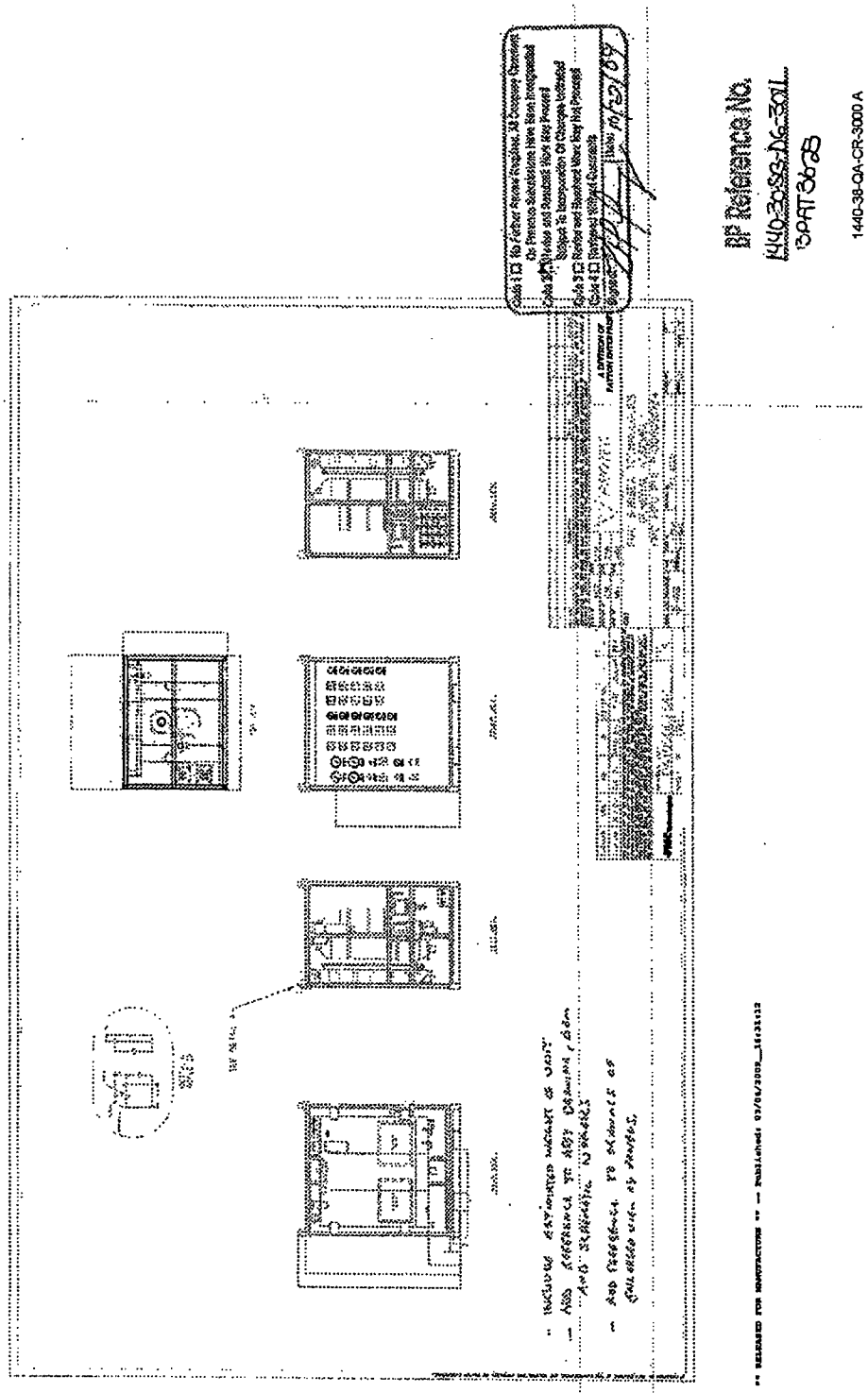
** RELEASED FOR MANUFACTURE ** — Published: 03/04/2009 10:32:06

BP Reference No.
1440-30SS-D6302
BPAT 3606

1440-38-QA-CR-3000 A

BPEP_ABB_01464427

Case 4:09-cv-01193 Document 343-18 Filed in TXSD on 04/04/12 Page 46 of 51



Procedure for Removing Panel Nut from MP Valves BP ATLANTIS, TEST HPU

FMC PART No:	FMC PART: P1000058784	S/N:	
PROTEC PROJECT No:	PRO-208384	S/N:	3557 & 3558

Rev	Doc No.	Date	Originated By	Reviewed By	Approved By	Status
1	209	11/10/2009	Pucheu, Chris	Williams, Chad	Thrasher, Bill	Released

This document and all the information contained herein are the confidential and exclusive property of Patton Enterprises, and may not be reproduced, disclosed, or made public in any manner prior to express written authorization by Patton Enterprises.

1.0 Removal of Panel Nut

1. Tools required
   - 3/4 open ended wrench
   - 3/16 allen wrench
2. Place the allen wrench in the open end of the handle on the valve and turn counterclockwise to loosen the allen screw.
3. After removing the keeper screw, slide the handle off the valve stem.
4. If the panel nut too tight to turn by hand use the 3/4 wrench and turn counterclockwise to loosen.
5. Continue to loosen the nut by hand until the nut is free from the threads.
6. Remove the nut.
7. Place the handle back on the valve stem, making sure the allen screw is pointing towards the flat spot on the valve stem.
8. Use the allen wrench to tighten the set screw by turning in clockwise motion.

PROTEC
ISO 9001 CERTIFIED
11002 San Leon Dr. ♦ Dickinson, Texas 77539 ♦ 281-559-1551 ♦ Fax 281-339-1269
info@protecpower.com

September 30, 2009

FMC Technologies Ltd.
1777 Gears Rd.
Houston, TX 77067
Phone (281) 591-4073

CERTIFICATE OF CONFORMANCE
#208384

FMC PO # 47187007

PROTEC certifies that the material furnished against the purchase order referenced above is in accordance with the product number as ordered and that all material so furnished has been manufactured and inspected in accordance with all accepted commercial manufacturing tolerances and practices.

Quantity	Part
2	THPU, BP ATLANTIS, DD3 FMC Part Number: P1000058784 Rev C PROTEC PRO: 208384, Serial No.'s- 3557 & 3558

By: _____ Chad Williams (General Manager)

Technip

Atlantis

Transmittal Note

3478-ETR-4719

date: **12/09/2009**

page: 1/1

External Addressees

Chrono	Name	Action	Chrono	Name	Action
	Tinikka Curtis (e)	For Information Only			
2	Daniel Gutierrez (1)	FRC			
1	George Huntoon (1)	FRC			

Internal Addressees

Greenleaf William/Quality Assurance Manager II (1)		

Transmitted Documents

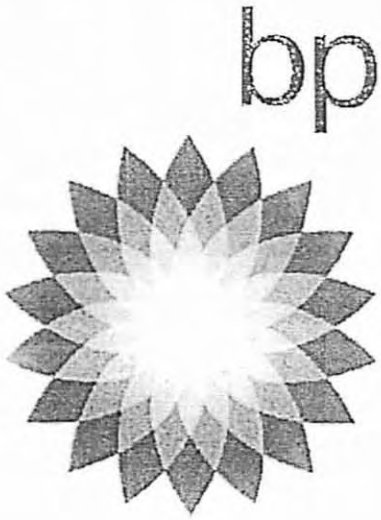
DC3 - FMC-Protec - Quality Notification - Test HPUs not Per Specification - HPU - Pressure Regulated Test Assembly - Part No P1000058784 - SN 3557 - QN200143677

QN200143677 || 3478-F-1440-38-QA-CR-3000 rev.A : DC3 - FMC-Protec - Quality Notification - Test HPUs not Per Specification - HPU - Pressure Regulated Test Assembly - Part No P1000058784 - SN 3557 - QN200143677

Remarks: FRC - Comments due back by 12/23/2009

Issuer Name :	Judy Finkelstein	Signature :	Acknowledged by :

Exhibit 107
Part 13



Gulf of Mexico
Deepwater – Atlantis PQ

Atlantis PQ
Subsea Comms Enhancements
Scope of Work

SPECIFICATION NUMBER: 1440-20-IC-SP-1000

REV	DATE	DOCUMENT STATUS	ORIGINATOR	CHECKED	APPROVED
2	12/11/09	As implemented, no watchdog timer	SLC		
1	10/28/08	Issued for Implementation	SLC		
A	09/09/08	For Internal Review	SLC		

Document Control Number	Job Number	Area/Unit Designation	Discipline Code	Document Type	Sequence Number	Document Revision
	1440	20	IC	SP	1000	2

TABLE OF CONTENTS

1.0 SUMMARY 3

2.0 WATCHDOG TIMER 3

3.0 DUAL COMMS LOSS ALARMS AND ESD SHUTDOWNS 4

4.0 SUBSEA GRAPHICS MODIFICATIONS 4

5.0 COMMS CHANNELS A AND B 5

6.0 TRAINING OPORTUNITY 6

BPEP_ABB_04135832

1.0 SUMMARY

There have been a series of failures in the Topside Electronic Modules that resulted in loss of communications to the subsea wells. Most of the communication failures were a result of losing the Single Board Computers (SBC), and an analysis is being conducted to determine why these boards have been failing. The failure of these boards highlighted a deficiency in the interface between the subsea control system and the topside safety system which allowed the communication loss to go un-noticed several times and undetected by the system on at least one occasion. Additionally, we experienced a dual comms loss failure mode that was not considered in the safety system logic design. During a facility ESD, the system is designed to send valve closure commands to the subsea control modules and close the valves locally at the subsea tree. When both communication paths are lost (dual comms loss) the system is designed to dump the hydraulic circuit at the topsides unit during a facility ESD event, so it is critical that the system recognizes all failure modes of the dual comms loss event.

The intent of this set of enhancements is to ensure that the dual comms failures are detected, the comms failures are clear to the operator and that all safety shutdown actions are executed.

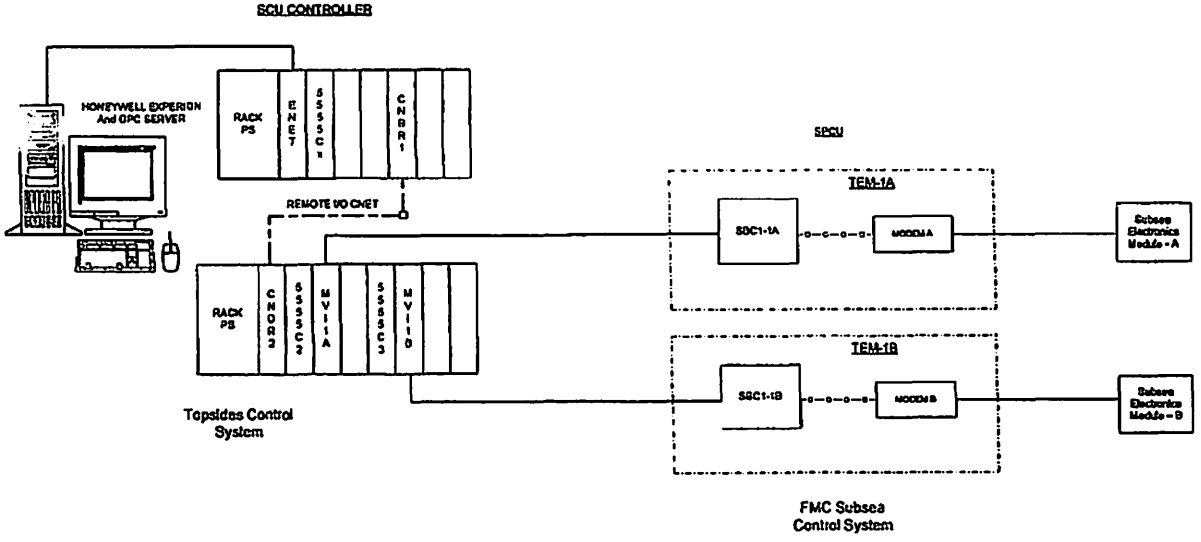


Figure 1
Simplified Diagram

2.0 WATCHDOG TIMER (NOT IMPLEMENTED AS PART OF MOC-08-218)

The redundant communication path between the topsides Prosoft MVI comm cards and FMC's Single Board Computers is critical for monitoring and shutdown actions. This link is currently flagged as "bad" by an internal status bit generated by the topsides MVI card. This link has been fairly reliable but we

have experienced a failure mode in which the FMC Single Board Computer had failed and this status bit was still indicating an "OK" condition for the comm link.

To increase the probability of detecting this failure, we will implement an active watchdog timer system. The topsides control system will continually monitor a tag in the SBC that is known to be changing. This may be a clock timer or a tag that the topsides system is toggling then reading back. A comms failure alarm will be triggered if the tag value fails to change for more than 30 seconds.

3.0 DUAL COMMS LOSS ALARMS AND ESD SHUTDOWNS

The existing comms failure alarms rely on the FMC Single Board Computer to actively monitor the status of each well. If it detects a communication failure on any channel, it will flag that failure to the topside control system. It will individually flag each channel for each subsea well. The topside control system will then use these status flags\tags to determine if both channels to any individual well have failed. If so, this event will be classified as a dual comms loss to the particular well and an alarm will be raised in the control room to alert the operator that a total comms failure has occurred on the well. The safety system logic will then enable a permissive to dump the hydraulic supply circuit at the topsides in order to remove hydraulic pressure and close the tree valves in the event of a facility ESD. This is required since the subsea control system can no longer send commands to close the subsea valves locally at the tree. The subsea well is not automatically shut-in on a total loss of comms.

When any Single Board Computer fails, the topsides system will indicate a connection failure however, it can no longer determine the status of the comm alarms for the individual wells. The comm alarms remain in their last state even though we have lost comms due to the SBC failure. This is not a fail safe design so we are modifying the logic to include the loss of communications between the topsides system and FMC's Single Board Computers. If an SBC fails to communicate with the topsides control system due to a board failure or any other problem, the topsides control system will treat this as a loss of communications to all subsea wells that are controlled by that SBC. This will allow the safety system to enable a permissive to allow a facility ESD to dump the topside hydraulic circuits. It will also clearly flag loss of comms on the subsea operator graphics.

4.0 SUBSEA GRAPHICS MODIFICATIONS

When communications are lost to the subsea wells the existing graphics indicate the comms loss on the screen by turning a small LED indicator to a red color state and a text box will show "OFFNORMAL". The valve status and process readings remain in their last state with no visual indication that the readings are no longer updating.

We will add an alarm tag and text "COMMS LOSS" to each subsea well screen. The text will flash red when communications are lost on the active channel. The text will be invisible if communications are normal on the active channel. This will help ensure that the operator is aware that communications are down on the channel and the data is not valid.

The exiting "TEM dual comm" alarm will be modified to become a general "dual comm" loss alarm so that a failed SBC or link will activate this alarm and visual indicator. The TEM dual comms will also continue to activate this alarm.

REDACTED

5.0 COMMS CHANNELS A AND B

The communications are continually transmitted and received on both comm channels. The graphics only display the data from the currently selected channel. The data for both channels can be seen on the individual pop-up screens for each device. If one comms channel fails, the commands and shutdowns will still be sent on the good channel regardless of what comm channel is selected as active.

The choke commands are only sent on the currently selected channel.

The acoustic sand detectors are only read on the currently selected channel.

The system will not be modified to automatically switch to the other channel if the active channel fails however, an alarm tag will signal the operator that comms are lost as described in section 4.0.

6.0 TRAINING OPORTUNITY

The modifications will require assistance from FMC and the use of their equipment. It will also require a small test system to replicate the topside control system. With all of the equipment setup onshore and the modifications being implemented and tested, this would be an excellent opportunity to provide additional training and exposure for the offshore automation specialists.

The training would include:

- A refresher on the system layout and software configuration
- How to identify faulty SBCs and other components
- Swapping the Single Board Computers. Procedures will be developed and tested in the lab setup. Review details on how to swap modules then identify and download the correct configuration files from Smart Tool.
- Swapping the Prosoft MVI cards. Procedures will be developed and tested in the lab setup. . Review details on how to swap cards then identify and download the correct configuration files using hyper-terminal.

bp

Management of Change

= Required Field

MOC #: MOC-GC787-08-0218
Date Initiated: 10/22/2008
Initiated By: Colton, Steve

MOC Type:	Technical	MOC Status:	impl
Facility:	Atlantis	Expected Startup Date:	11/15/2008
System:	Subsea	RFA #:	GC787-0157
Verifier/Coordinator:	Colton, Steve	Priority:	B (Med)
Shutdown Required:	None	Priority Reason:	Safety
MOC Duration:	◉Permanent ○Temporary	Emergency Change:	○Yes ◉No

Title:

Enhance Subsea Comms alarms and shutdowns

Scope:

During a loss of communications event, the control system failed to properly identify that both communication paths were lost. A dual comms loss event should enable the topside hydraulic system to dump the hydraulics if an ESD is activated. Without the dual comms hydraulic shutdown, the wells would continue to flow into the flowline since control commands can not be sent to the subsea control pod. The Prosoft to FMCs TPU (SBC) comm path will be added to the dual comms arm trip signal. This MOC will also address the visibility of the comms loss event on the operator graphics. When communications are lost to an individual subsea well, a "comms loss" indication will flash on the graphic to alert the operator that the data is no longer valid.

Justification:

Safety and environmental impacts are possible if the subsea wells fail to shutdown during an emergency event. This will also make it easier to identify when communications are lost to an individual subsea well.

From: Whitehead, David K (Technip) <David.Whitehead@bp.com>
Sent: Monday, March 8, 2010 12:31 PM
To: Fraske, Troy <Troy.Fraske@bp.com>; Haqqani, Hakeem (Technip) <hakeemhaqqani@bp.com>
Cc: McDaniel, Colby (JJC) <Colby.McDaniel@bp.com>; Gutierrez, Daniel <daniel.gutierrez@bp.com>; Berger, Ron K (Manatee) <ron.berger@bp.com>; DSanders@technip.com
Subject: FW: EFL Locations - FMC vs. Technip Dwgs
Attach: HH IDC-ATL-00302 FMC UTA Elect Sch Consolidated Comments.docx

Troy,

The questions that Dee is asking should be traceable to the post installation sign-off check sheets for the original installation campaign. Please can you advise where this detailed installation information (e.g etc) resides.

Hakeem - as a cross reference please will you check the pre-commissioning controls results performed during testing from the PQ to establish whether the comms checks actually recorded the point to point line idents for the wells in question

Thanks

David K. Whitehead
BP Controls Lead
Atlantis Subsea - GoM Deepwater Development
Phone # at Technip: 281 249 1951

Location: Energy Tower I (Technip), Suite 150, Rm 4.12, Houston
email: whitdz@bp.com

From: HHaqqani@technip.com [mailto:HHaqqani@technip.com]
Sent: Monday, March 08, 2010 10:33 AM
To: DSanders@technip.com
Cc: Whitehead, David K (Technip)
Subject: Re: EFL Locations - FMC vs. Technip Dwgs

Dee,

The e-mail below coincides what I have discussed with you and David last week. Please see the attached consolidated comment sheet this may answer some of your questions. I have to investigate if the EFL connection can be traced from the software, I doubt that since the discrepancies are on the same pair between A & B or C & D this may not be discretely defined in the software but I will check.

Thanks,

Hakeem Haqqani

Dee Sanders/AMERICA
03/08/2010 08:37 AM

To Hakeem Haqqani/AMERICA@AMERICA
cc David.Whitehead@bp.com
Subject EFL Locations - FMC vs. Technip Dwgs

Hakeem,

I compared the FMC and Technip electrical drawings and found several EFLs that did not have the same connection locations. In all cases, the quads used were the same, but the electrical connector (A, B, C, D) differed. I have indicated which EFLs are installed and which are not, but I do not currently have information on which connector was used for the ones that are installed.

Some of these would be easy to verify with the ROV. For example, since DC-123 is installed but DC-124 is not, it would be easy to tell whether DC-124 is connected to #1A or #1B.

Since both DC-111 / DC-112 and DC-113 / DC-114 are all installed, is there a way to verify which EFL is installed on which connector without having to use the ROV? Isn't the controls software based on the EDU location, which would imply the FMC drawing is incorrect and needs revised?

It would be difficult to verify which EFL is which using the ROV because the EFLs all look alike unless the part number is visible. Since some EFLs have been installed for a while, I'm not positive how visible the part number will still be.

Thanks,
Dee Sanders
Sr. Project Specialist
Technip USA
Main: 281-870-1111
Direct: 281-249-4024
E-mail: dsanders@technip.com

Name	Description	SCM	FMC Dwg 7002DA1080238	Technip Dwg 3478-BSB-DC-0374	Status
E2-23-1	ELECTRICAL FLYING LEAD, PRODUCTION, 4-WAY FLYING PLUG X 4-WAY FLYING RECEPTACLE, 360 FT LONG, EDU E2 TO DC-123 XT, BP ATLANTIS	DC-123 XT SEM A	E2 EDU #1A	E2 EDU #1B	NOT INSTALLED
E2-24-1	ELECTRICAL FLYING LEAD, PRODUCTION, 4-WAY FLYING PLUG X 4-WAY FLYING RECEPTACLE, 425 FT LONG, EDU E2 TO DC-124 XT, BP ATLANTIS	DC-124 XT SEM A	E2 EDU #1B	E2 EDU #1A	INSTALLED
E2-41-1	ELECTRICAL FLYING LEAD, PRODUCTION, 4-WAY FLYING PLUG X 4-WAY FLYING RECEPTACLE, 450 FT LONG, EDU E2 TO DC-141 XT, BP ATLANTIS	DC-141 XT SEM A	E2 EDU #8B	E2 EDU #8A	NOT INSTALLED
E2-41-2	ELECTRICAL FLYING LEAD, PRODUCTION, 4-WAY FLYING PLUG X 4-WAY FLYING RECEPTACLE, 450 FT LONG, EDU E2 TO DC-141 XT, BP ATLANTIS	DC-141 XT SEM B	E2 EDU #9D	E2 EDU #9C	NOT INSTALLED
E2-42-1	ELECTRICAL FLYING LEAD, PRODUCTION, 4-WAY FLYING PLUG X 4-WAY FLYING RECEPTACLE, 460 FT LONG, EDU E2 TO DC-142 XT, BP ATLANTIS	DC-142 XT SEM A	E2 EDU #8A	E2 EDU #8B	INSTALLED
E2-42-2	ELECTRICAL FLYING LEAD, PRODUCTION, 4-WAY FLYING PLUG X 4-WAY FLYING RECEPTACLE, 460 FT LONG, EDU E2 TO DC-142 XT, BP ATLANTIS	DC-142 XT SEM B	E2 EDU #9C	E2 EDU #9D	INSTALLED

Name	Description	SCM	FMC Dwg 7002DA1080238	Technip Dwg 3478-BSB-DC-0375	Status
E4-11-1	ELECTRICAL FLYING LEAD, PRODUCTION, 4-WAY FLYING PLUG X 4-WAY FLYING RECEPTACLE, 600 FT LONG, EDU E4 TO DC-111 XT, BP ATLANTIS	DC-111 XT SEM A	E4 EDU #2B	E4 EDU #2A	INSTALLED
E4-11-2	ELECTRICAL FLYING LEAD, PRODUCTION, 4-WAY FLYING PLUG X 4-WAY FLYING RECEPTACLE, 600 FT LONG, EDU E4 TO DC-111 XT, BP ATLANTIS	DC-111 XT SEM B	E4 EDU #3D	E4 EDU #3C	INSTALLED
E4-12-1	ELECTRICAL FLYING LEAD, PRODUCTION, 4-WAY FLYING PLUG X 4-WAY FLYING RECEPTACLE, 650 FT LONG, EDU E4 TO DC-112 XT, BP ATLANTIS	DC-112 XT SEM A	E4 EDU #2A	E4 EDU #2B	INSTALLED
E4-12-2	ELECTRICAL FLYING LEAD, PRODUCTION, 4-WAY FLYING PLUG X 4-WAY FLYING RECEPTACLE, 650 FT LONG, EDU E4 TO DC-112 XT, BP ATLANTIS	DC-112 XT SEM B	E4 EDU #3C	E4 EDU #3D	INSTALLED
E4-13-1	ELECTRICAL FLYING LEAD, PRODUCTION, 4-WAY FLYING PLUG X 4-WAY FLYING RECEPTACLE, 225 FT LONG, EDU E4 TO DC-113 XT, BP ATLANTIS	DC-113 XT SEM A	E4 EDU #9A	E4 EDU #9B	INSTALLED
E4-13-2	ELECTRICAL FLYING LEAD, PRODUCTION, 4-WAY FLYING PLUG X 4-WAY FLYING RECEPTACLE, 225 FT LONG, EDU E4 TO DC-113 XT, BP ATLANTIS	DC-113 XT SEM B	E4 EDU #10C	E4 EDU #10D	INSTALLED
E4-14-1	ELECTRICAL FLYING LEAD, PRODUCTION, 4-WAY FLYING PLUG X 4-WAY FLYING RECEPTACLE, 200 FT LONG, EDU E4 TO DC-114 XT, BP ATLANTIS	DC-114 XT SEM A	E4 EDU #9B	E4 EDU #9A	INSTALLED
E4-14-2	ELECTRICAL FLYING LEAD, PRODUCTION, 4-WAY FLYING PLUG X 4-WAY FLYING RECEPTACLE, 200 FT LONG, EDU E4 TO DC-114 XT, BP ATLANTIS	DC-114 XT SEM B	E4 EDU #10D	E4 EDU #10C	INSTALLED
E4-33-1	ELECTRICAL FLYING LEAD, PRODUCTION, 4-WAY FLYING PLUG X 4-WAY FLYING RECEPTACLE, 175 FT LONG, EDU E4 TO DC-133 XT, BP ATLANTIS	DC-133 XT SEM A	E4 EDU #10A	E4 EDU #10B	NOT INSTALLED
E4-33-2	ELECTRICAL FLYING LEAD, PRODUCTION, 4-WAY FLYING PLUG X 4-WAY FLYING RECEPTACLE, 175 FT LONG, EDU E4 TO DC-133 XT, BP ATLANTIS	DC-133 XT SEM B	E4 EDU #8C	E4 EDU #8D	NOT INSTALLED
E4-34-1	ELECTRICAL FLYING LEAD, PRODUCTION, 4-WAY FLYING PLUG X 4-WAY FLYING RECEPTACLE, 175 FT LONG, EDU E4 TO DC-134 XT, BP ATLANTIS	DC-134 XT SEM A	E4 EDU #10B	E4 EDU #10A	NOT INSTALLED
E4-34-2	ELECTRICAL FLYING LEAD, PRODUCTION, 4-WAY FLYING PLUG X 4-WAY FLYING RECEPTACLE, 175 FT LONG, EDU E4 TO DC-134 XT, BP ATLANTIS	DC-134 XT SEM B	E4 EDU #8D	E4 EDU #8C	NOT INSTALLED

This email and any attached files ("Message") may contain confidential and/or privileged information. It is intended solely for the addressee(s). If y
Any unauthorized use, distribution, or copying of this Message or any part thereof is prohibited. Emails are susceptible to alteration. Neither Techni

bp

BP ATLANTIS PROJECT APPROVAL	
Code 1 - Approved; No further review required.	
Code 2 - Revise & Resubmit; Work May Proceed	✓
Code 3 - Revise & Resubmit. Work may NOT proceed	
Approved By:	Date: 12/16/10

DC1

FMC/Honeywell

Service Notification, Failed BPAT TPU Board, Failed During Testing By Honeywell, Part No P100036467, SN 0908374

(SN300249632)

DOCUMENT NUMBER: 1440-35-QA-CR-5021

REV	DATE	DOCUMENT STATUS	ORIGINATOR	CHECKED	BP APPROVAL
A	12/15/10	For Review and Comments (Rev A)			

Document Control Number	Job Number	Area/Unit Designation	Discipline Code	Document Type	Sequence Number	Document Revision
	1440	35	QA	CR	5021	A

12/09/2010 Notification overview vers. 1 WILLIAC2 Original Page 1

Notification	300249632		*Notification type*	S1
Description	*Failed BPAT TPU Board*			Problem notification
Reporter	*WILLIAC2*	10:19:35	*Notification date*	12/09/2010
Start date	*12/09/2010*		*End date*	01/21/2011
Start time	*10:19:35*		*End time*	00:00:00
Priority	*SM 2*	High		
Equipment				
Serial number				
Material	*100036467*			
Device data	SER NO 0908374			
Order				
PM planner grp			*Phone*	

BP Atlantis TPU board failed during testing by Honeywell group.

History: TPU Part No. 100036467 Ser No. 0908374 was purchased under the kit P1000059719 from RAN.

For FMC Engineer tasking: Require description of failure (5W's). include failure indications and error codes, if available. State failure date to determine warranty status.

SN will be passed to BP for determination of disposition of board. Cal Williams, PM BPTH, 10 Dec 2010.

Sold-to party 46932 *Phone 1-800-284-2244*
Address
BP EXPLORATION INC.
ATTN: SCANNING DEPT. S646
PO Box 22024
TULSA OK
USA

Coordinator WILLIAC2 *Phone*
Address
Williams
Cal (Elwyn)
Company address, please mainta

Task	S1010010 0020	Investigate Equipment History
Partner	Aneet	
System Status	TSOS	

Detail Position 0001
Text
Object part
Damage 0130 Faulty signal/indication/alarm
Assembly
Error class

Cause of damage 0010 Unknown
Cause (text)

End of report

data respons

1 Supplier(name, address, country)	2 Number
Data Respons Norge AS Integration Center Olaf Helsets vei 5G N-0694 Oslo Norway	[090209-SB] CERTIFICATE OF COMPLIANCE
3 Receiver (name, address, country) FMC Kongsberg Subsea AS Kirkegårdsveien 45 3616 Kongsberg	
4 Particulars of product (where required) Your order 47192906 called for by Tor Torgrimsen	Suppliers declaration As supplier of the goods described below, we hereby declare that the said goods are of the quality and the quantity specified and comply with the order, drawings, specifications and other applicable documentation.

5 Description of the goods	6 Quantity	7 Serial number
100036467 Single Board Computer KS200/ And KS200/150	5 pcs	0908370 0908371 0908372 0908373 0908374

8 Other information

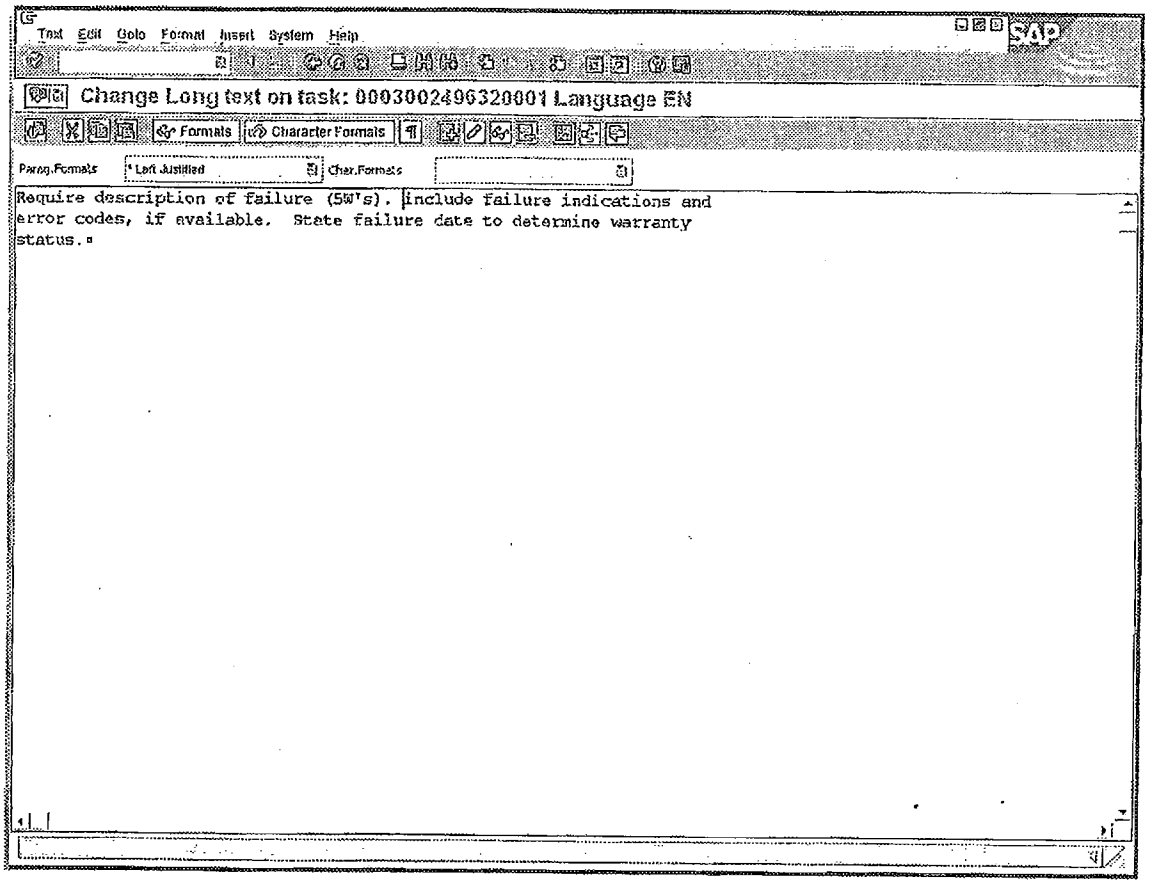
Regarding the main board all process certification, chemical and physical test reports, when required, are on file at the facilities of the manufacturer Motorola Computer Group (MCG), SBS Technologies GmbH & Co and GE Fanuc Embedded System Inc.

It is hereby confirmed that this certificate is signed by an authorized employee of Data Respons Norge AS. This certificate is issued according to the ISO 9001 quality system implemented by the company.

Place and date of issue
Oslo 17.02.09

Authorized signature

1440-35-QA-CR-5021 A


Text Edit Goto Format Insert System Help
SAP
Change Long text on task: 00030024963200001 Language EN
Formats
Character Formats
Parag.Formats
* Left Justified
Char.Formats
Require description of failure (5W's). Include failure indications and
error codes, if available. State failure date to determine warranty
status.

THUNDER HORSE & ATLANTIS PROJECT TEAMS

Inter Discipline Check

Document No & Rev:	1440-35-QA-CR-5021 A	IDC No: ATL-01799
Document Title:	DC1 - FMC/Honeywell - Service Notification, Failed BPAT TPU Board, Failed During Testing By Honeywell, Part No P150036467, SN 0808374 (SN300249632)	Approval Code: 1 2 3
Issue Date: 12/15/2010	Return Date: 12/16/2010	☑ Sequential ☐ Parallel

Names	App Code	Initials	Date	Names	App Code	Initials	Date
Engineering							
Bob Petrobon (email)				Stan Silva			
Cathy McDaniel	2	CM	12/16/10	Garrick Malone			
Dave Whitehead (email)				Tom Tavsend			
Gerry Galiano				David Patrick	NC	DP	12/15/10
Matt Dionne				Annita Rosalia			
Dee Sanders (email)				Guillermo Hahn			
Rory Cashin	NC	RC	12/16/10	Jondone Lin			
Bill Miller				Pete Barbee			
James Rowton				Amanda Smelser			
Hakeem Hasgani				Robert Tellez			
Deva Loch	2	DL	12/16/10	Drue Wilkins			
Wayne Dean				CT Zhou			
Rod Seip				Rick Wasser (email)			
John McDonnell				Clark Weldon			
Brent Marsden				Benny Kirkham			
Paul Anderson				Mike Higginbotham			
Rakshith Naik				Ward Cleland			
Ferrel Blank				Jeff Courville			
Chandan Mukhopadhy							
Rob Schwab				Farah Armstrong			
Robert Huddleston	NC	RH	12/16/10				
Steve Cotton				Amos Eden			
Fabrication							
Jenny Fussler (email)				John Schwabel			
Bob Evans				Robert Alexander			
				Jessie Martinez			
Installation							
John Hughes				Eric Mansteinfel			
Daniel Gutierrez				Luis Gutierrez			
Keith Angel				Richard Phillips			
Mike Renner				Kirk Harris			
Scott Maderia				Tim Benson			
Troy Fraske							
Dick Metcalf (email)							
QA/QC							
Lanny Gookin	2	LG	12-15-10	Dana Weber			
George Huntoon				Ron Peveley			
Delivery Teams							
Marvin Beckmann				Bill Broman			
Jon Day				John Jondle			
Mark Alexander				Beau Breaux			
Mohan Neelam				Laura Erwin			
Robert Betts				Chong Zhou			
Justin Morse				Tony Redgard			
Mike Price				Brandon Reynolds			
Tom Bertsch				Matt Cunningham			
Mavis Sanchez (WL 4: email)				Hari Sadi			
Brian Foster (WL 4: email)				Danielle Broussard			
Barry Dull	For Information Only			Jim Rey			
Kristen Oakley	For Information Only			Laura Zarkadnik			
				Lucy Gebhart			

For Information Only
Indicates the Document Reviewer
Indicates the Document Approver

Remarks / Instructions:

Please review and return comments/approval code on attached comments sheet 12/16/10

If additional distribution is needed please indicate on IDC & inform the ATLSS DCC.

Code Legend -
Code 1 - Approved
Code 2 - Revise and Resubmit, Work May Proceed
Code 3 - Not Approved - Revise and Resubmit, Work May NOT Proceed
NC - Reviewed Without Any Comments (Only applicable to REVIEWERS)

Return to ATLANTIS SS DCC

BP Thunder Horse/Atlantis Topsides Document Review Comments

JB

Date: 12/16/10

Reviewed by: Dana Loch / Colby M. Approval Code: 2/2

Supplier Name:	FMC/Honeywell
BP Document Number:	1440-35-QA-CR-5021 A
Document Name:	DC1 - FMC/Honeywell - Service Notification, Failed BPAT TPU Board, Failed During Testing By Honeywell, Part No P100036467, SN 0908374 (SN300249632)
IDC Number:	IDC-ATL-01799
Issue Date:	12/15/10
Received Date:	

Section No.	Remarks / Comments
	1) Explain the reason why the TPU board failed.
	2) Include a path forward. Repair or replace?
	3) Provide warranty information
	4) provide date and background of failure.

General Comments:

Code Legend:

1 - Approved
2 – Revise and Resubmit, Work May Proceed
3 – Rejected - Revise and Resubmit, Work May NOT Proceed

Code Notes:

1 – No notes required
2 – When a document is returned Code 2, all comments must be incorporated into the revised document or a justification for not including each comment must be returned with the revised document.
When a document is returned Code 2, the comments shall be addressed and the revised document shall be returned within 15 working days or the document Code will revert to a Code 3, unless otherwise agreed with the BP Approval Authority.
3 – When a document is returned Code 3, all comments must be incorporated into the revised document or a justification for not including each comment must be returned with the revised document.

EXHIBIT 108

From: Young, Brian J
Sent: Thursday, January 03, 2008 10:56:13 AM
To: Oza, Nita; Berger, Ron K (Manatee)
Subject: LIM alarms

Nita / Ron,
To follow up on our discussion yesterday. I checked the HMI this morning and all of the lines on SPCU 1 and 2 are showing offnormal.

SPCU 1 lines 1 - 6 = offnormal
SPCU 2 lines 1 - 6 = offnormal

However the line insulation reading on each line shows 11 MOHMs. It seems that there is either a noise problem or logic problem. It is likely an FMC problem to address.

Thanks,
Brian

Discovery Ex. No. **216**
Cause No.
4:09-cv-01193
Abbott v. BP

Brian J. Young
Subsea Engineer
Atlantis Subsea Ops
BP - GoM
Direct: (281) 366-3078
Cell: (571) 236-7152
Fax: (281) 366-1600
Brian.J.Young@bp.com

Redacted

EXHIBIT 109

From: Oza, Nita <Nita.Oza@bp.com>
Sent: Monday, January 7, 2008 2:37 PM
To: Berger, Ron K (Manatee) <ron.berger@bp.com>; Hickok, Doyle D (Technip) <Doyle.Hickok@bp.com>; Broman, William H(HOU) <william.broman@bp.com>
Subject: FW: Subsea vavles opening without request.
Attach: 2008-01-07 Subsea Uncommanded Trips on DC-124.ZIP

Dear All,

The note below is the latest we have from offshore.

We are expecting FMC to come into bp this afternoon, to take a look at this.

Nita Oza
Atlantis Operations
Onshore Subsea Team Lead
Office: 281 366 3901
Cell: 281 948 3570

From: Thomas, Dennis J
Sent: Monday, January 07, 2008 10:37 AM
To: Dean, Wayne (TECHNIP); Young, Brian J; Oza, Nita
Cc: Orr, Scotty; Taylor, Elton Z; Patt, Darren L; Snow, Jeff R; Little, Joshua J; Laborde, David (Baker/MO)
Subject: Subsea vavles opening without request.

This morning from approximately 1am until approximately 4:30 am, the XOV and possibly other valves on DC124 opened multiple times without being requested by the operator. When I reached the control room at 4:20am, Elton Taylor was just recovering from the last of the excursions. He felt that the SmartTool was the culprit. The primary reason for believing this, was that the SEMA icon on the field display screen of SmartTool had been appearing and disappearing from the screen. It was not present on the screen at the time. I checked the event log on the DCS to see if there was any other logical explaination. Since I did not see one, I elected to shutdown SmartTool. No further uncommanded openings occurred. I then went out to look at SPCU1. Everything was normal.

Steve Rogers reports that the SEM A icon was missing last night at about 10pm when he looked at it.

Attached below is the event log and trends of DC124 for the time in question. It appears that there were communication type errors prior to each event. In the first column, I identified the time that the valve was open. This time is not literal, and could easily be off by 60 seconds or a little more as I obtained this from the trend, not an event log.

Please call with any questions,

Dennis Thomas
337-735-2330

<<2008-01-07 Subsea Uncommanded Trips on DC-124.ZIP>>

Redacted

EXHIBIT 110

From: Broman, William H(HOU) <william.broman@bp.com>
Sent: Monday, January 7, 2008 2:44 PM
To: Oza, Nita <Nita.Oza@bp.com>
Subject: Re: Subsea vavles opening without request.

Do you have whitehead involved and do you need Jan Mundorf?

Odd sounding

Sent from my BlackBerry Wireless Handheld

Discovery Ex. No. **217**
Cause No.
4:09-cv-01193
Abbott v. BP

----- Original Message -----
From: Oza, Nita
To: Berger, Ron K (Manatee); Hickok, Doyle D (Technip); Broman, William H(HOU)
Sent: Mon Jan 07 19:36:40 2008
Subject: FW: Subsea vavles opening without request.

Dear All,

The note below is the latest we have from offshore.

We are expecting FMC to come into bp this afternoon, to take a look at this.

Nita Oza
Atlantis Operations
Onshore Subsea Team Lead
Office: 281 366 3901
Cell: 281 948 3570

From: Thomas, Dennis J
Sent: Monday, January 07, 2008 10:37 AM
To: Dean, Wayne (TECHNIP); Young, Brian J; Oza, Nita
Cc: Orr, Scotty; Taylor, Elton Z; Patt, Darren L; Snow, Jeff R; Little, Joshua J; Laborde, David (Baker/MO)
Subject: Subsea vavles opening without request.

This morning from approximately 1am until approximately 4:30 am, the XOV and possibly other valves on DC124 opened multiple times without being requested by the operator. When I reached the control room at 4:20am, Elton Taylor was just recovering from the last of the excursions. He felt that the SmartTool was the culprit. The primary reason for believing this, was that the SEMA icon on the field display screen of SmartTool had been appearing and disappearing from the screen. It was not present on the screen at the time. I checked the event log on the DCS to see if there was any other logical explaination. Since I did not see one, I elected to shutdown SmartTool. No further uncommanded openings occurred. I then went out to look at SPCU1. Everything was normal.

Steve Rogers reports that the SEM A icon was missing last night at about 10pm when he looked at it.

Attached below is the event log and trends of DC124 for the time in question. It appears that there were communication type errors prior to each event. In the first column, I identified the time that the valve was open. This time is not literal, and could easily be off by 60 seconds or a little more as I obtained this from the trend, not an event log.

Please call with any questions,

Redacted

Dennis Thomas
337-735-2330

<<2008-01-07 Subsea Uncommanded Trips on DC-124.ZIP>>

Redacted

ATTACHMENT A

IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF TEXAS
HOUSTON DIVISION

UNITED STATES OF AMERICA EX REL. KENNETH W. ABBOTT; KENNETH W. ABBOTT, INDIVIDUALLY; AND FOOD & WATER WA TCH, INC.;	§	
Plaintiffs,	§	CIVIL ACTION NO. 4:09-CV-01193
v.	§	JURY DEMANDED
BP EXPLORATION AND PRODUCTION INC., ET AL.;	§	
Defendants.	§	

DECLARATION OF MARY WHITTLE

I, Mary Whittle, pursuant to the provisions of 28 U.S.C. § 1746, declare:

1. I am an attorney at law licensed to practice before the court of the State of Texas and the District of Columbia. I am counsel for Plaintiffs United States of America *ex rel.* Kenneth W. Abbott, Kenneth W. Abbott, individually, and Food and Water Watch, Inc. (collectively "Plaintiffs") in this matter. I am fully familiar with the facts stated below and submit this declaration and the attached exhibits in support of Plaintiffs' Motion for Summary Judgment. All of the statements of fact in this Declaration are true and correct according to my personal knowledge.

2. Attached hereto as Exhibit 1 is a true and correct copy of Bates Numbered Document BPEP_ABB_01597639 and 01597642, Atlantis Field, Supplemental Conservation Information Document (March 2009).

3. Attached hereto as Exhibit 2 is a true and correct copy of Bates Numbered Document BPEP_ABB_00086577, 00086583 and 00086590, Atlantis Project – Application to Design, Fabricate and Install a Platform (Sept. 2002) ("Platform Application").

4. Attached hereto as Exhibit 3 is a true and correct copy of Bates Numbered Document FWW0008511/512, Lease OCS-G 15606.

5. Attached hereto as Exhibit 4 is a true and correct copy of pages from the deposition of B. Domangue dated November 15, 2011.

6. Attached hereto as Exhibit 5 is a true and correct copy of Bates Numbered Document BPEP_ABB_00094892, the Swift Technical Services LLC–Contract for Services.

7. Attached hereto as Exhibit 6 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03455080, Organization Chart Showing Abbott's position.

8. Attached hereto as Exhibit 7 is a true and correct copy of the Bates Numbered Document ABB0015861 and 0015894, April 24, 2009 Letter to U.S. DOJ with attached Plaintiffs' Original Complaint.

9. Attached hereto as Exhibit 8 is a true and correct copy of pages from the Deposition of K. Abbott dated December 16, 2011.

10. Attached hereto as Exhibit 9 is a true and correct copy of the Bates Numbered Document BPEP_ABB_01524673, email from B. Duff to B. Naseman and W. Broman dated August 15, 2008.

11. Attached hereto as Exhibit 10 is a true and correct copy of pages from the Deposition of B. Duff dated September 12, 2011.

12. Attached hereto as Exhibit 11 is a true and correct copy of the Bates Numbered Document BPEP_ABB_01524667/4668, email from B. Duff to A. Gregg and Bill E. Naseman dated August 15, 2008.

13. Attached hereto as Exhibit 12 is a true and correct copy of pages from the Deposition of T. Curtis dated September 12, 2011.

14. Attached hereto as Exhibit 13 is a true and correct copy of the Bates Numbered Document BPEP_ABB_01521407/1409.

15. Attached hereto as Exhibit 14 is a true and correct copy of the Bates Numbered Document MUSTANG ENG 000205 and 000210, Atlantis Records Management Project Execution Plan, Document number 1440-10-AD-PR-0005.

16. Attached hereto as Exhibit 15 is a true and correct copy of pages from the Deposition of W. Naseman dated November 30, 2011.

17. Attached hereto as Exhibit 16 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03463083, 03463088, 03453108 and 03453109, BP Ombudsman Employee Concerns Program, Confidential Investigation Report, Case No: 2009-005.

18. Attached hereto as Exhibit 17 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00115572/5574, letter from Rep. Grijalva (U.S. Congress) to E. Birnbaum (MMS) dated February 24, 2010.

19. Attached hereto as Exhibit 18 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00115575, letter from MMS to Rep. Grijalva (House of Rep) dated March 26, 2010.

20. Attached hereto as Exhibit 19 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00082829/2830, letter from M. Saucier (MMS) to S. Todd (BP) dated July 21, 2010.

21. Attached hereto as Exhibit 20 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00115564/5566, letter from S. Todd (BP) to M. Saucier (MMS) dated Aug. 9, 2010.

22. Attached hereto as Exhibit 21 is a true and correct copy of pages from the Deposition of D. Sustala dated September 19, 2011.

23. Attached hereto as Exhibit 22 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00086984, letter from T. Laurendine for D. Howard, MMS, to D. Sustala, BP dated December 12, 2002.

24. Attached hereto as Exhibit 23 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00086986/6989, letter from D. Sustala, BP, to D. Howard, MMS, dated January 27, 2003.

25. Attached hereto as Exhibit 24 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00087025, email from T. Laurendine for D. Howard, MMS, to D. Sustala, dated February 25, 2003.

26. Attached hereto as Exhibit 25 is a true and correct copy of the Bates Numbered Document BPEP_ABB_04076454/6455, 04076462 and 04076464, DSME Contract dated Sept. 1, 2001, § 1.3 "Engineering and Design."

27. Attached hereto as Exhibit 26 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00087049/7050, email from T. Laurendine, MMS, to D. Sustala, BP dated January 16, 2005.

28. Attached hereto as Exhibit 27 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00087685, letter from A. Shah for Lars T. Herbst, MMS, to D. Sustala, BP, dated January 16, 2007.

29. Attached hereto as Exhibit 28 is a true and correct copy of pages from the Deposition of D. Sustala dated May 10, 2011.

30. Attached hereto as Exhibit 29 is a true and correct copy of pages from the Deposition of K. DeJohn dated September 14, 2011.

31. Attached hereto as Exhibit 30 is a true and correct copy of pages from the Deposition of S. Todd dated December 5, 2011.

32. Attached hereto as Exhibit 31 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00111486, 00111493 and 00111525, Atlantis Project Floating Systems Team Project Execution Plan.

33. Attached hereto as Exhibit 32 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00112443, email from D. Sustala, BP, and L. Pekel, ABS, dated November 26, 2002 (1:56PM).

34. Attached hereto as Exhibit 33 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00112441/2442, email from D. Sustala to L. Pekel dated November 26, 2002 (4:28PM).

35. Attached hereto as Exhibit 34 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00112440, email from D. Sustala to L. Pekel dated November 26, 2002 (4:38PM).

36. Attached hereto as Exhibit 35 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00112401/2402, email from L. Pekel to D. Sustala dated December 6, 2002 (11:53AM).

37. Attached hereto as Exhibit 36 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00112426/2427, email exchange between P. Ganguly, Millennium Technical Consultants, and D. Sustala, BP, dated November 29, 2002.

38. Attached hereto as Exhibit 37 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00112616, email from D. Sustala, BP, to P. Ganguly, Millennium Technical Consultants dated October 24, 2002.

39. Attached hereto as Exhibit 38 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00112450/2452, email from S. Kinnaman to D. Sustala dated November 22, 2002.

40. Attached hereto as Exhibit 39 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00112629/2630, email from B. Thurmond to D. Sustala dated October 23, 2002.

41. Attached hereto as Exhibit 40 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00112524/2526, email from D. Sustala to K. Jansson, GVA, dated October 24, 2002.

42. Attached hereto as Exhibit 41 is a true and correct copy of pages from the Deposition of R. Peloubet dated September 9, 2011.

43. Attached hereto as Exhibit 42 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00112627, email from D. Sustala to J. Faulker dated October 24, 2002.

44. Attached hereto as Exhibit 43 is a true and correct copy of the Bates Number Document BPEP_ABB_00112508, email from R. Phillips to D. Sustala dated October 25, 2002.

45. Attached hereto as Exhibit 44 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00112453/2454, email from D. Sustala dated November 21, 2002.

46. Attached hereto as Exhibit 45 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00110497/0499, email from D. Sustala (BP) to S. Kinnaman (Mustang) dated March 24, 2004.

47. Attached hereto as Exhibit 46 is a true and correct copy of pages from the Deposition of F. Ragan taken September 8, 2011.

48. Attached hereto as Exhibit 47 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00110014/0015, email from F. Ragan to K. DeJohn, L. Osborn and D. Sustala dated November 12, 2005.

49. Attached hereto as Exhibit 48 is a true and correct copy of the pages from the Deposition of G. Malone taken August 30, 2011.

50. Attached hereto as Exhibit 49 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03493064, email from C. Ward to K. Smith (Hull arrives in Corpus Christi from Korea on May 25, 2005; integration ran from May 2005 through August 2006) dated August 30, 2010.

51. Attached hereto as Exhibit 50 is a true and correct copy of pages from the Deposition of J. Upchurch taken October 4, 2011.

52. Attached hereto as Exhibit 51 is a true and correct copy of pages from the Deposition of R. Berger taken September 15, 2011.

53. Attached hereto as Exhibit 52 is a true and correct copy of the Bates Numbered Document BPEP_ABB_01524687/4688, email from B. Naseman to A. Taylor attaching FST Handover Schedule dated March 5, 2008.

54. Attached hereto as Exhibit 53 is a true and correct copy of pages from the Deposition of L. Osborn taken September 21, 2011.

55. Attached hereto as Exhibit 54 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00115909 and BPEP_ABB_00115917, Specification for Data and Information Handover from Projects into Operations, 1400-85-IM-SP-8700.

56. Attached hereto as Exhibit 55 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03500136 and BPEP_ABB_03500143, Atlantis Engineering Workflow Process.

57. Attached hereto as Exhibit 56 is a true and correct copy of the Bates Numbered Document BPEP_ABB_01631097, BPEP_ABB_01631100 and BPEP_ABB_01631106, Document Control Procedure, ssproj-10-PCPR-000001.

58. Attached hereto as Exhibit 57 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03505121 and BPEP_ABB_03505126, Contractor Document Control Procedure, 1400-10-AD-PR-0219.

59. Attached hereto as Exhibit 58 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03505155 and BPEP_ABB_03505159/5160, MEI Document Control Procedure, 1400-10-AD-PR-0214.

60. Attached hereto as Exhibit 59 is a true and correct copy of the Bates Numbered Document BPEP_ABB_01453338 and BPEP_ABB_01453359/3374, Project Orientation and Procedures Manual, 1440-21-POPM-PR-0001.

61. Attached hereto as Exhibit 60 is a true and correct copy of the Bates Numbered Document MUSTANG ENG 000001, MUSTANG ENG 000072 and MUSTANG ENG 000090, Topsides Design Engineering and Project Services Contract, Ex. A "Scope of Work," Section 2.3.4.1.

62. Attached hereto as Exhibit 61 is a true and correct copy of the Bates Numbered Document T-USA 000001 and T-USA 000056, Well Systems Integrations and Design Services Engineering Contract, Ex. A "Scope of Work," Section 11.6.

63. Attached hereto as Exhibit 62 is a true and correct copy of pages from the Deposition of R. Malone taken September 13, 2011.

64. Attached hereto as Exhibit 63 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03534372/4379, Finance Memo.

65. Attached hereto as Exhibit 64 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03534380, BPEP_ABB_03534382, BPEP_ABB_03534384, BPEP_ABB_03534386, BPEP_ABB_03534388, BPEP_ABB_03534390 and BPEP_ABB_03534392, GoM Atlantis South Supplementary FM and Atlantis Phase 2 Strategy.

66. Attached hereto as Exhibit 65 is a true and correct copy of the Atlantis South Supplement Cost Estimate Summary previously marked as Discovery Exhibit No. 347 in this case.

67. Attached hereto as Exhibit 66 is a true and correct copy of pages from the Deposition of W. Naseman taken November 30, 2011.

68. Attached hereto as Exhibit 67 is a true and correct copy of Bates Numbered Document BPEP_ABB_00091459, email from B. Naseman to W. Broman and B. Duff dated April 25, 2008.

69. Attached hereto as Exhibit 68 is a true and correct copy of the Bates Numbered Document BPEP_ABB_01519199/9200, email from B. Duff to A. Gregg, M. Garland and T. Curtis dated May 6, 2008.

70. Attached hereto as Exhibit 69 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00089380, email exchange from G. Imm to R. Berger dated May 13, 2008.

71. Attached hereto as Exhibit 70 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00115759/5760, email from R. Peloubet to S. Todd dated April 20, 2010.

72. Attached hereto as Exhibit 71 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03482184/2185, email from N. Oza (BP) to S. Berg (Technip) dated July 22, 2008.

73. Attached hereto as Exhibit 72 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03505962/5963, email from L. Osborn (Mustang) to M. Garland (BP) dated May 12, 2009.

74. Attached hereto as Exhibit 73 is a true and correct copy of pages from the Deposition of S. Todd taken May 9, 2011.

75. Attached hereto as Exhibit 74 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00115609 and BPEP_ABB_00115620, email from S. Todd (BP) to B. Domangue (MMS), dated July 3, 2010 (with Power Point presentation attached stating that BP followed its Specification for Handover).

76. Attached hereto as Exhibit 75 is a true and correct copy of the Bates Numbered Document BPEP_ABB_01622474. Email from B. Domangue to D. Sustala dated August 20, 2010.

77. Attached hereto as Exhibit 76 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00082845/2846, email from S. Todd (BP) to B. Domangue dated August 25, 2010.

78. Attached hereto as Exhibit 77 is a true and correct copy of the Title page and pages 7-8 of API RP 14C (Sec. 3.2 and 3.4(e)).

79. Attached hereto as Exhibit 78 is a true and correct copy of Bates Numbered Document FWW0018028/18029, email from W. Hauser to Z. Corrigan dated February 17, 2010.

80. Attached hereto as Exhibit 79 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00085724/5727, letter from B. Domangue, MMS, to D. Sustala, BP, dated May 3, 2007.

81. Attached hereto as Exhibit 80 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00085234, Professional Engineering Statement (Item 5).

82. Attached hereto as Exhibit 81 is a true and correct copy of the Bates Numbered Document BPEP_ABB_01598219/8220, letter from D. Sustala, BP, to Michael Saucier dated February 23, 2005.

83. Attached hereto as Exhibit 82 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00084533/4534, letter from D. Sustala to M. Saucier dated February 25, 2005.

84. Attached hereto as Exhibit 83 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00084932/4933, letter from D. Sustala to M. Saucier dated August 1, 2005.

85. Attached hereto as Exhibit 84 is a true and correct copy of *The Professional Engineering* (Nat'l So. Prof. Eng. July 2007).

86. Attached hereto as Exhibit 85 is a true and correct copy of Bates Numbered Document BPEP_ABB_00082852/2854, email from B. Domangue (MMS) to S. Todd (BP) dated August 31, 2010.

87. Attached hereto as Exhibit 86 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00110518/0519, email from R. Phillips to D. Sustala, J. Hart and L. Osborn dated January 29, 2004.

88. Attached hereto as Exhibit 87 is a true and correct copy of pages from BP Native File Bates Numbered Document BPEP_ABB_00854373 (Title Page and Page 29 of 35), System Certification Package, 1440-35-SB-SP-3033_ATS_SIC_Rev0.doc (contained within TS Subsea Control System 956, Document Number 1440-20-CM-PR-956-8001).

89. Attached hereto as Exhibit 88 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00110497/0499, email from D. Sustala (BP) to S. Kinnaman (Mustang) dated March 24, 2004.

90. Attached hereto as Exhibit 89 is a true and correct copy of the Bates Numbered Document BPEP_ABB_05211191/1193, email from D. Sustala (BP) to A. Laplante (BP) dated March 25, 2004.

91. Attached hereto as Exhibit 90 is a true and correct copy of the Bates Numbered Document T-USA 001407 and T-USA 001419, BP Well Integration and Design Engineering Atlantis Sealing Plan § 3.3.

92. Attached hereto as Exhibit 91 is a true and correct copy of pages from the deposition of D. Elmer dated September 14, 2011.

93. Attached hereto as Exhibit 92 is a true and correct copy of pages from the Deposition of G. Stevick taken December 20, 2011.

94. Attached hereto as Exhibit 93 is a true and correct copy of Bates Numbered Document FWW0008573 and FWW0008620, Site-Specific Environmental Assessment (SEA) No. N-7646 at E-2 (April 17, 2003).

95. Attached hereto as Exhibit 94 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03534711 and BPEP_ABB_03534784, DOCD, Environmental Impact Statement § 8.3.

96. Attached hereto as Exhibit 95 is a true and correct copy of pages from the Deposition of R. Pierce taken December 1, 2011.

97. Attached hereto as Exhibit 96 is a true and correct copy of the Bates Numbered Document BPEP_ABB_04147184 and BPEP_ABB_04147199, Gulf of Mexico SPU-Atlantis, S&O Audit, 30 November 2009 to 11 December 2009 – Entity Verifiable Findings, Audit 0935.

98. Attached hereto as Exhibit 97 is a true and correct copy of BPEP_ABB_04147214 and BPEP_ABB_04147241, Audit Report, Safety & Operations Audit, Final Report 13 January 2010.

99. Attached hereto as Exhibit 98 is a true and correct copy of the Bates Numbered Document BPEP_ABB_02828782/8789 and BPEP_ABB_02828796, Worley Parsons Atlantis PSV-41003 Sizing Check Calculation, August 19, 2010.

100. Attached hereto as Exhibit 99 is a true and correct copy of the Bates Numbered Document BPEP_ABB_04135740, Root Cause Failure Analysis Report – Gas Turbine Generator ZAN-5000 Shutdown.

101. Attached hereto as Exhibit 100 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03514575, email from F. Ragan to W. Dean (Technip) dated February 11, 2008.

102. Attached hereto as Exhibit 101 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03502155/2156, email from S. Maxwell to R. Oneta dated September 22, 2007.

103. Attached hereto as Exhibit 102 is a true and correct copy of pages from the Deposition of S. Cotton taken December 14, 2011.

104. Attached hereto as Exhibit 103 is a true and correct copy of BP Native File Bates Numbered Document BPEP_ABB_02832882, Piping and Instrument Diagram, Pipeline Pumps (Drawing No. 1440-20-PI-DG-4389).

105. Attached hereto as Exhibit 104 is a true and correct copy of Bates Numbered Document BPEP_ABB_03579591/9592, email from R. Berger to B. Broman dated August 26, 2008.

106. Attached hereto as Exhibit 105 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03359747/9757, Safety Shutdown Logic Drawings, BP Document Numbers 1440-35-SB-DG-3021 through 3030.

107. Attached hereto as Exhibit 106 is a true and correct copy of pages from the Deposition of K. Angel taken December 14, 2011.

108. Attached hereto as Exhibit 107 is a true and correct copy of List of BP Controls Malfunctions Documents and Listed Documentation.

109. Attached hereto as Exhibit 108 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03512831, email from B. Young to N. Oza and R. Berger dated January 3, 2008.

110. Attached hereto as Exhibit 109 is a true and correct copy of the Bates Numbered Document BPEP_ABB_04125309, email from N. Oza re: FW Subsea vavles (sic) opening without requested, dated January 7, 2008.

111. Attached hereto as Exhibit 110 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03559672/9673, email from W. Broman to N. Oza dated January 7, 2008.

112. Attached hereto as Exhibit 111 is a true and correct copy of pages from the Deposition of R. Berger taken November 2, 2011.

113. Attached hereto as Exhibit 112 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03626944/6945, email from J. Little re: DC122 Shut in, dated August 10, 2008.

114. Attached hereto as Exhibit 113 is a true and correct copy of the Bates Numbered Document BPEP_ABB_02895422/5423, Functional Design Specification for the Master Control Station, Subsea Control Unit, BP Doc. No. 1440-35-SB-SP-0030.

115. Attached hereto as Exhibit 114 is a true and correct copy of the Bates Numbered Document BPEP_ABB_02408632, Subsea Control System Cause and Effects, BP Doc. No. 1440-35-SB-RP-0114.

116. Attached hereto as Exhibit 115 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03244795, Master Control Station Site Integration Test, BP Doc. No. 1440-35-SB-PR-0130.

117. Attached hereto as Exhibit 116 is a true and correct copy of the Bates Numbered Document BPEP_ABB_00087921 (and internal pages 10-19 through 10-22), Preliminary Deepwater Operations Plan, dated June 21, 2004.

118. Attached hereto as Exhibit 117 is a true and correct copy of pages from the Deposition of L. Holzenthal taken December 13, 2011.

119. Attached hereto as Exhibit 118 is a true and correct copy of the Bates Numbered Document BPEP_ABB_04135705/5709, email from S. Cotton to K. DeJohn and F. Ragan re: FW: Atlantis update, dated August 5, 2008.

120. Attached hereto as Exhibit 119 is a true and correct copy of the Bates Numbered Document BPEP_ABB_04135730, email from S. Cotton to Waterhouse re: Subsea Comms MOC-08-218 Hazard Review, dated October 28, 2008.

121. Attached hereto as Exhibit 120 is a true and correct copy of the Bates Numbered Document BPEP_ABB_03498616/8618, email from R. Peloubet re: Operations Managers Meeting and Higher dated January 22, 2007.

122. Attached hereto as Exhibit 121 is a true and correct copy of pages from the Deposition of W. Castell dated June 22, 2011.

123. Attached hereto as Exhibit 122 is a true and correct copy of pages from the Deposition of G. Cowlam dated June 7, 2011.

124. Attached hereto as Exhibit 123 is a true and correct copy of pages from the Deposition of S. Newman dated September 30, 2011.

125. Attached hereto as Exhibit 124 is a true and correct copy of pages from the Deposition of P. Campbell dated July 12, 2011.

126. Attached hereto as Exhibit 125 is a true and correct copy of pages from the Deposition of R. Turlak dated September 28, 2011.

I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct.

Executed this 4th day of April 2012, in Washington, D.C.

/s/ Mary Whittle
Mary Whittle

EXHIBIT 111

IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF TEXAS
HOUSTON DIVISION

UNITED STATES OF AMERICA EX REL. KENNETH W. ABBOTT; KENNETH W. ABBOTT, INDIVIDUALLY, AND FOOD & WATER WATCH, INC.;	§	CIVIL ACTION NO. 4:09-CV-01193
Plaintiffs',	§	
VS.	§	JURY DEMANDED
BP EXPLORATION AND PRODUCTION, INC., ET AL;	§	
Defendants.	§	

ORAL AND VIDEOTAPED 30(b)(6) DEPOSITION OF BP, PLC, BP AMERICA, INC., BP EXPLORATION & PRODUCTION, INC., AND BP PRODUCTS NORTH AMERICA BY AND THROUGH RONALD BERGER

NOVEMBER 2, 2011

ORAL AND VIDEOTAPED DEPOSITION OF BP, PLC, BP AMERICA, INC., BP EXPLORATION & PRODUCTION, INC., AND BP PRODUCTS NORTH AMERICA BY AND THROUGH RONALD BERGER, produced as a witness at the instance of the plaintiffs' and duly sworn, was taken in the above styled and numbered cause on Wednesday, November 2, 2011, from 1:31 p.m. to 6:40 p.m., before RENE WHITE MOAREFI, CSR, CRR, RPR in and for the State of Texas, reported by computerized stenotype machine, at the offices of Fulbright & Jaworski, 1301 McKinney, Suite 5100, Houston, Texas, pursuant to the Federal Rules of Civil Procedure and the provisions stated on the record herein.

A. I believe Steve Cotton would know.

Q. But you don't know?

MR. NESSER: Objection to form.

A. I just stated I don't know the timing or the details of the correction.

Q. (BY MR. PERRY) What leads you to believe that some action has been taken to remedy that problem?

MR. NESSER: Objection, scope.

A. I don't know.

Q. (BY MR. PERRY) Okay. Well, let me try to go on to something else, then.

One of the issues -- one of the events that happened related to these problems is that there was XOV valves that opened during the time that the well was in -- that -- that opened on certain wells during the time that the well was in production; is that right?

A. I recall one instance on 124 -- well, at least one -- one well where this particular situation happened.

Q. Now, this is a situation where that is a valve that is supposed to be closed while the well is in production, correct?

A. The XOV is normally closed normally during production.

Q. It is not supposed to open, right?

A. It's not supposed to open without command.

which is set by the base management team within BP that's responsible for the asset. And they work with the operations offshore on management of that pressure and that casing.

Q. Do you know what that pressure is?

A. No, I do not. It's sometimes dependent on the well.

Q. So it would vary from one well to another?

A. It -- it could.

Q. Is that pressure generally -- how -- how does that pressure relate to the pressure inside the production tree during normal operating periods?

A. It could be quite a bit higher than the normal operating pressure in the tubing.

Q. Okay. On occasions when the XOV has opened, have there ever been any occasions where oil has gotten into the annulus and formed hydrates?

MR. NESSER: Objection, scope.

A. I'm not aware of a situation where oil got into the annulus and formed hydrates. That's a potential possibility. The situation you just explained with 124 likely had oil get into the annulus from that particular uncommanded valve operation.

Q. (BY MR. PERRY) But it was your opinion you talk -- you told me -- have told me before that it was not

SIGNATURE PAGE

I, BP, PLC, BP America, Inc., BP Exploration & Production, Inc., and BP Products North America By and Through Ronald Berger, have read the foregoing deposition and hereby affix my signature that same is true and correct, except as noted on the correction page IN 2 ea. errata sheets.

Ronald K Berger

BP, PLC, BP AMERICA, INC., BP EXPLORATION & PRODUCTION, INC., AND BP PRODUCTS NORTH AMERICA BY AND THROUGH RONALD BERGER

each page which I have initialed.

lectronically signed by Rene Moarefi (401-392-745-8300)

baf08d4d-b485-4691-a27b-b8f08d78f6fc

THE STATE OF TEXAS)
COUNTY OF HARRIS)

REPORTER'S CERTIFICATION
DEPOSITION OF BP, PLC, BP AMERICA, INC., BP EXPLORATION & PRODUCTION, INC., AND BP PRODUCTS NORTH AMERICA BY AND THROUGH RONALD BERGER
TAKEN NOVEMBER 2, 2011

I, RENE WHITE MOAREFI, Certified Shorthand Reporter and Notary Public in and for the State of Texas, hereby certify to the following:

That the witness, BP, PLC, BP America, Inc., BP Exploration & Production, Inc., and BP Products North America By and Through Ronald Berger, was duly sworn by the officer and that the transcript of the oral deposition is a true record of the testimony given by the witness;

That the original deposition was delivered to DAVID E. PERRY, ESQ.;

That a copy of this certificate was served on all parties and/or the witness shown herein on November 11, 2011.

I further certify that pursuant to FRCP No. 30(f)(i) that the signature of the deponent was requested by the deponent or a party before the completion of the deposition and that the signature is to be before any notary public and returned within 30 days from date of receipt of the transcript. If returned, the attached Changes and Signature Page contains any changes and the reasons therefor.

I further certify that I am neither counsel for, related to, nor employed by any of the parties in the action in which this proceeding was taken, and further that I am not financially or otherwise interested in the outcome of the action.

Certified to by me this 4th day of November, 2011.

RENE WHITE MOAREFI, RPR, CRR
My notary commission expires 10-28-14
WORLDWIDE COURT REPORTERS
3000 Weslayan, Suite 235
Houston, Texas 77027
1-800-745-1101

EXHIBIT 112

From: Little, Joshua J
Sent: Sunday, August 10, 2008 5:06:45 PM
To: Taylor, Elton Z; Berger, Ron K (Manatee)
CC: Byrd, Wanda J; Boston, Julius; Bordelon, Christopher S (Baker Energy); Gipson, Les; Gardner, Alton P; Herrmann, Douglas T; Haiko, David J; Langlinais, Craig S; Young, Brian J; Oza, Nita; Harrison, Rickey; McGlothin, Clifton G; Ohlenforst, Thomas J; Patt, Darren L; Parikh, Manasi J; Angel, Keith F; Mack, Michael R; Snyder, David D; Ball, Michael A; Cotton, Steven L; Ragan, Frank; Laborde, David (Baker/MO); Snow, Jeff R; Thomas, Dennis J
Subject: RE: DC122 Shut in

Attachments: 2008_10_08 DC-122 SBC shutin.xls

Attached is the event report from the Subsea server. The first tab was filtered to only show DC-122 tags and the second has everything for the last 2 days. You can see that the DC-122 SEM A STATUS has had a OFFNORML status several times before and it has returned to normal. We cannot say for sure if status alarm is directly or indirectly related to the bad values we got at the same time. Ron has contacted FMC and they will be looking into this issue today or tomorrow morning.

Currently we have SPCU_1's line breaker 5A open to prevent any possible complications with SEM-A & SEM-B communications. LIM_A common alarm (ATS_USSPC03A) is in alarm now. We watched the line monitor go through each line and the LCD indicated the resistance was always greater than 10 Mohms and showed no faults. We cleared the panels instrument alarms and it cleared, but came back shortly after.

2008_10_08
DC-122 SBC
shutin.xls
(606 kB)

Joshua Little
Automation Specialist
BP Atlantis Operations
Office: (337) 735-2230
joshua.little@bp.com

From: Taylor, Elton Z
Sent: Sunday, August 10, 2008 11:29 AM
To: Berger, Ron K (Manatee)
Cc: Byrd, Wanda J; Boston, Julius; Bordelon, Christopher S (Baker Energy); Gipson, Les; Gardner, Alton P; Herrmann, Douglas T; Haiko, David J; Langlinais, Craig S; Little, Joshua J; Young, Brian J; Oza, Nita; Harrison, Rickey; McGlothin, Clifton G; Ohlenforst, Thomas J; Patt, Darren L; Parikh, Manasi J; Angel, Keith F; Mack, Michael R
Subject: DC122 Shut In

After this mornings tower change several alarms came in on DC122 at about 07:21. The DC122 well page showed that the PIV, PWV, SCSSV1, SCSSV2, CIDV1 and CIDV3 valves were in Failure (Yellow) and the SEM A was showing 22 VAC. The BHP was building , Choke upstream psi, Choke upstream Temperature, Choke Downstream psi, Jumper psi and P1 FA2 psi were all dropping. I and the Topside CRO began looking to find out if these reading were true. A loss in production confirmed that DC122 had shut in. DC122 shut in was reported to the OIM and Ops TL.
Josh Little reset the SEM A SBC.
Shut DC122 choke and secured PIV, PWV, SCSSV1, SCSSV2, CIDV1 and CIDV3 valves by giving them a closed command.
While Josh Little investigated the events log, I prepared the well to be restarted.
No reason or cause could be found for why well did shut in, however we did determine that there would be no danger in restarting the well until we could find the Clarification of the events and we what the Resolution will be to eliminate the problem.
We have contacted Ron Berger and he will have FMC report to the Westlake location to review the events with the Smart Tool. Also Josh Little will shut down DC122 SEM A side after he is finished reviewing the events log.
DC122 was shut in at 07:21. Ramp up began at 08:16

Document provided in native format

EXHIBIT 113

bp

DC1

Technip

Well Systems Integration & Design Engineering - Functional Design Specification for the Master Control Station/Subsea Control Unit (System Production Control System)

(3478-BSB-SA-0002)

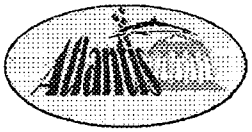
Atlantis

DOCUMENT NUMBER: 1440-35-SB-SP-0030

This document cover page has been added to the above document to augment the review and verification of the DC1 and DC3 Drill Centers, this cover page is attached to the latest revision only

REV	DATE	DOCUMENT STATUS	ORIGINATOR	CHECKED	BP APPROVAL
0	01/05/04	Issued For Construction			

Document Control Number	Job Number	Area/Unit Designation	Discipline Code	Document Type	Sequence Number	Document Revision
	1440	35	SB	SP	0030	0



BP

Well Systems Integration & Design Engineering

Functional Design Specification
for the Master Control Station / Subsea Control Unit
(Subsea Production Control System)

BP ATLANTIS CONFIDENTIAL WORK PRODUCT

BP Doc. No.: 1440-35-SB-SP-0030			Technip Doc. No.: 3478-BSB-SA-0002			
Rev. No.	**Rev. Date**	**Revision Description**	**Prep. By:**	**Technip Chk'd.:**	**Technip Approved**	**Client Approval**
A	10/03/02	Initial Release	ET	RRM	AW	
0	01/05/04	Issued for Construction	ET	RRM	AW	

EXHIBIT 114

bp

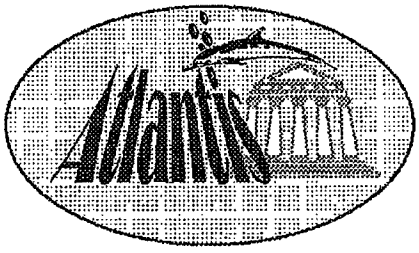
Superseded

DC1

Technip

Well Systems Integration and Design Engineering - Subsea Control System Cause And Effects

(3478-BSB-RA-0188)



DOCUMENT NUMBER: 1440-35-SB-RP-0114

This document cover page has been added to the above document to augment the review and verification of the DC1 and DC3 Drill Centers, this cover page is attached to the latest revision only

2	05/19/05	As Built			
REV	DATE	DOCUMENT STATUS	ORIGINATOR	CHECKED	BP APPROVAL

Document Control Number	Job Number	Area/Unit Designation	Discipline Code	Document Type	Sequence Number	Document Revision
	1440	35	SB	RP	0114	2

EXHIBIT 115

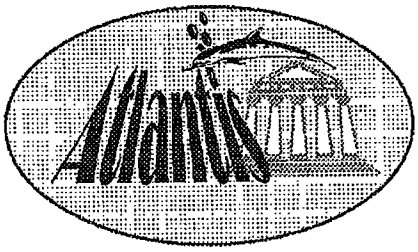
bp

DC1

Technip

Wells Systems Integration & Design Engineering - Master Control Station Site Integration Test

(3478-BSB-PA-0031)



DOCUMENT NUMBER: 1440-35-SB-PR-0130

This document cover page has been added to the above document to augment the review and verification of the DC1 and DC3 Drill Centers, this cover page is attached to the latest revision only

REV	DATE	DOCUMENT STATUS	ORIGINATOR	CHECKED	BP APPROVAL
0	07/28/04	Approved (Code 1)			

Document Control Number	Job Number	Area/Unit Designation	Discipline Code	Document Type	Sequence Number	Document Revision
	1440	35	SB	PR	0130	0

EXHIBIT 116

bp

bhpbilliton

Atlantis Deepwater Development

Preliminary Deepwater Operations Plan

June 21, 2004

Table 10.13 MMS Subsea Valve Closure Guidelines from NTL No. 2000-G13

Sensed Activation	Pipeline SDV	USV	SCSSV
Process Upsets	Within 45 Seconds	Within 20 minutes after upset*	Closure not required
Pipeline PSL	Within 45 Seconds	Activation concurrent with SDV closure*	Activation concurrent with SDV closure*
ESD or Fire loop	Within 45 Seconds	Activation concurrent with SDV closure **	Activation concurrent with SDV closure**

*The appropriate GOMR District Supervisor may allow alternate valve closure sequencing procedures to augment valve integrity and enhanced flow assurance if they provide a level of safety and environmental protection that equals or surpasses that provided in the above valve closure time guidelines. The installation of additional barriers (variable chokes, production wing valves, etc.) may help you to justify these alternate procedures. Make sure these alternate procedures are addressed in you Deepwater operations Plan.

** The appropriate GOMR District Supervisor may grant a departure for you to delay the time to close a USV and SCSSV for a subsea well after activation of a platform ESD or fire loop for up to 20 minutes, if you agree in writing to:

- Install a TSE, connected to the pipeline PSL sensor circuit, within 5 feet of the boarding pipeline SDV that will immediately initiate a shut-in action of the USV;
- Ensure that your SDV is fire rated by API Spec 6A to 30 minutes; and
- Issue a manual acknowledgement command to the program logic controller (PLC) that verifies a non-emergency status at least once every 5 minutes during this 20 minute time period to keep the reset timer active.

10.13.1 Proposed Alternate Shutdown Sequences and Departure Requests

BP proposes tiered shutdown sequences for the three sensing activation events:

- ESD or Fire loop
- Pipeline PSL
- Process Upsets

BP proposes alternate valve closure sequencing procedures to augment valve integrity and enhanced flow assurance that provide a level of safety and environmental protection that equals or surpasses that provided in the above valve closure time guidelines. The Atlantis Subsea Safety System makes use of additional barriers, including an additional USV, a choke with a fast closing actuator, an actuated production injection valve (PIV), and an actuated crossover valve (CXV).

10.13.1.1 Shutdown Valve Closure

The SDV provides primary protection for the platform and personnel. Consequently, the boarding SDV will close in less than 45 seconds for all events:

- ESD /Fire loop
- Pipeline PSL
- Process Upsets

10.13.1.2 Fast Acting Choke Closure

The Atlantis safety system uses a subsea choke as the flow cut device. The choke is equipped with a fast close actuator. The choke, which is replaceable, will act as the well flow-cut valve and will close in less than one minute upon initiation of any shutdown condition:

- ESD or Fire loop
- Pipeline PSL
- Process Upset

The fact-closing choke will stop production flow before the other valves are closed significantly extending their life.

10.13.1.3 Production Isolation Valve (PIV) and Crossover Isolation Valve (CXV) Closures

The Atlantis production trees have an additional hydraulically actuated production isolation valve (PIV) on the production line downstream of the choke and a crossover isolation valve (CXV) on the test line output that is also downstream of the choke. These valves are of the same construction and integrity as the USVs and act as tertiary barriers to flow. The PIV and CXV will close immediately following the choke closure to ensure that there is no flow and the well is in a safe condition even before the USV s close. Closure of the fasting acting choke and the PIV and CXV effectively isolates the source of hydrocarbon and is equivalent to closure of an USV. These two valves will close upon initiation of any shutdown condition:

- ESD or Fire loop
- Pipeline PSL
- Process Upset

10.13.1.4 USV1 and USV2 Closure

The tree production master valve (PMV) and production wing valve (PWV) are designated as Underwater Safety Valve 1 and 2 (USV1 and USV2, respectively). Either valve may serve as primary. The USV1 and USV2 will close to stop flow from the wells and act as additional barriers to closure of the SDV.

The USV1 and USV2 will close within 2 minutes for either ESD or Fire loop, and Pipeline PSL events.

However, for process upsets, closure of the boarding SDV in 45 seconds, the fast acting choke in less than 1 minute, and the CIV and PIV immediately following choke closure will results in the stop of hydrocarbon flow in less than 2 minutes and provide sufficient barriers during process upset conditions.

BP proposes that for process upset conditions that the USV1 and USV2 remain open for up to 20 minutes to allow operators time to alleviate process upset conditions. The USV1 and USV2 will close in 20 minutes if the upset condition has not been corrected.

10.13.1.5 SCSSV Closure

The SCSSV will close for ESD, Fire loop, or Pipeline PSL actions within 2 minutes and 45 seconds without operator intervention. However, BP proposes that the operator may delay final SCSSV closure by manual acknowledgement command to the programmable logic controller (PLC) that verifies a non-emergency status at least once every 5 minutes during a 60-minute time period to keep the reset timer active. SCSSV closure for these events can only be delayed for maximum of 60 minutes.

During the ESD, Fire loop, or Pipeline PSL action, the closure of the SDV, Fast Acting Choke, PIV, CXV, USV1 and USV2 valves will provide a significant number of barriers allowing safe delay of SCSSV closure. Closure of the SCSSV is not required for process upsets.

Table 10.13.1.5 Proposed Production Shut-in Sequences and Shut-in Times

Sensed Activation	SDV	Fast Choke	PIV and CXV	USV1	USV2	SCSSV
General Shut-in Sequence	1	2	3	4	5	6
ESD or Fire loop	Within 45 sec	Within 1 min	Within 2 min	Within 2 min	Within 2 min	2 min 45 sec to 60 min[a,b]
Pipeline PSL	Within 45 sec	Within 1 min	Within 2 min	Within 2 min	Within 2 min	2 min 45 sec to 60 min[a]
Process Upsets	Within 45 sec	Within 1 min	Within 2min	Within 20 min	Within 20 min	No closure

a.
- SCSSV will close within 2 minutes and 45 seconds without intervention by operator.
- Operator must delay SCSSV closure by interface with PLC signal every 5 minutes.
- SCSSV closure can only be delayed for maximum of 60 minutes.

b.
- The 60 min. time delay option will not be available if there is loss of the primary and backup communications with one or more active wells and a simultaneous ESD or Fire Loop signal occurs.
- ESD signals detected after dual communication failures have occurred will result in 120 second delays prior to the start of simultaneous dump of both HP and LP hydraulic feeds from the HPU that shut in all well SCSSVs.
- Dual communication failures detected during ESD shut down sequences also result in 120-second delays to allow valve closures to be completed before the hydraulic SCSSV shutins.

The water injection trees use the same shut in sequence as the production trees with the exception that they do not have a fast close actuator on the choke. For this reason, the Water injector USV will close in slightly less time than the production USV.

10.13.2 Departure Request Supporting Information

In support of these alternate proposal requests, we provide the following response to the Stipulations and other requirements listed in NTL 2000 G13.

a. The MAOP of the pipeline system is greater than the maximum shut-in tubing pressure (SITP) of the wells(s). The MAOP of the Pipeline system will be at 7,752 psi based on the maximum SITP of the wells of 7,752 psi
b. The integrity of the pipeline is automatically monitored by a PSH and PSL sensor. The PSH sensor will be set no higher than 5 percent above the well(s) maximum SITP, and the PSL sensor will be set no lower than 15 percent below the lowest operating range of the pipeline).

   Although the sensors are located downstream of the, should either the pipeline PSH or PSL sensor actuate, then the SDV, Fast Choke, PIV & CXV, USV1 and USV2 will close and isolate hydrocarbon flow. Only the closing of the SCSSV will be delayed.

   During process upsets, the SDV, Fast Choke, PIV, and CXV will close acting as multiple barriers to hydrocarbon flow. A waiver is requested to delay closure of the USV1 and USV2 valves for up to 20 minutes.
c. The boarding pipeline SDV is located within 10 feet of the boarding pipeline riser.
d. The pipeline SDV will be tested using procedures found in API RP 14 H, Section 6.2.
e. ESD logic will shut-in the entire field by hydraulic dump if there is a loss of communications with any active well and there is a simultaneous ESD or fire loop condition.
f. Any ESD/temperature safety element (TSE) action on the host facility immediately closes the pipeline SDV, Fast Choke, PIV, CXV, USV1, and USV2. The SCSSV will be closed within 2 minutes, 45 seconds to 60 minutes as explained above.
g. A TSE will be installed within 5 feet of the boarding pipeline SDV and connected to the pipeline PSL sensor circuit that will immediately imitate a shut-in action of the USV.
h. The SDV is fire rated to 30 minutes per API Spec 6A.
i. The safety system will issue a manual acknowledgment command to the programmable logic controller (PLC) that requires verification of a non-emergency status at least once every 5 minutes in order to reset the timer during the 60-minute delayed SCSSV closure during ESD, Fire loop, or Pipeline PSL.

10.14 Testing of Safety Devices

BP will test the integrity of Safety Devices including Boarding Shutdown Valves (SDVs), Underwater Safety Valves (USVs), and the Surface Controlled Subsurface Safety Valves (SCSSVs). All of these valves will be tested according to requirements stated in NTL 2000-G13. In addition, BP will test the extra barriers valves that have been presented with our proposed shut-in sequence including the Fast Acting Subsea Choke, PIV, CXV, and USV2.

10.14.1 Shutdown Valves (SDVs)

The SDVs will be leak tested monthly to verify their integrity. During this test, the closure time of the valves will be recorded. The leak test will consist of monitoring for any leakage in the downstream segment. If the SDV does not operate properly within 45 seconds or if any fluid flow is observed, the valve will be repaired or replaced. All valves in the SDV will be tested to a zero leakage rate.

EXHIBIT 117

IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF TEXAS
HOUSTON DIVISION

UNITED STATES OF AMERICA,)
EX REL. KENNETH W. ABBOTT;)
KENNETH W. ABBOTT, INDIVIDUALLY)
AND FOOD & WATER WATCH, INC.;)
Plaintiffs,) Civil Action No. 4:09-cv-01193
)
v.)
)
BP EXPLORATION AND PRODUCTION) JURY DEMANDED
INC., ET AL.,)
Defendants.)

****

VIDEOTAPED ORAL DEPOSITION OF

LEO L. HOLZENTHAL, JR.

DECEMBER 13, 2011

****

VIDEOTAPED ORAL DEPOSITION OF LEO L. HOLZENTHAL, JR, produced as a witness at the instance of the Defendants BP EXPLORATION AND PRODUCTION, INC., ET AL., and duly sworn, was taken in the above-styled and numbered cause on the 13th day of December, 2011, from 9:01 a.m. to 12:30 p.m., before Mary Burkes, CSR in and for the State of Texas, reported by machine shorthand, at Fulbright & Jaworski, LLP, 1301 McKinney Street, Suite 4800, Houston, Texas 77010, pursuant to Notice, and the Federal Rules of Civil Procedure and the provisions stated on the record or attached hereto.

MR. NESSER: Objection to form.

Q. (By Mr. Watts) You have no way to what?

A. I have no knowledge one way or the other.

Q. And to flip it around, you have no reason to disagree with the statement that's in this document to that effect, right?

A. Yes, sir.

Q. Okay. Now, do you know what it means for a system to be running blind?

A. In what context?

(Discovery Exhibit No. 420 was marked.)

Q. (By Mr. Watts) In the context of Discovery Exhibit 420, which is an e-mail from Steven Cotton to Kenneth DeJohn, copying Frank Ragan, on August the 5th of 2008. That is almost a year after first oil, right?

A. Yes, sir.

Q. Okay. If you could, what I want to ask you about is an e-mail that is written starting in the middle of Page 2, from Leonard Scott to Geoffrey Dale, on August the 5th of 2008. Do you see how they've "attended a meeting at FMC yesterday to discuss the comms problems"?

A. Okay. Leonard Scott --

MR. NESSER: Take your time to look at

SmartTool was supposed to issue an alarm that there was a comms problem going on, so that the operators would know that they had lost communication with the subsea equipment?

A. I don't --

MR. NESSER: Objection to form.

A. I don't remember that.

Q. (By Mr. Watts) Okay. From reading this e-mail, can you see that for whatever reason, when these comms problems were happening, that "the system was," quote, "running blind for some period of time and no one noticed"?

MR. NESSER: Objection to form.

A. That's what's reported here, yes.

Q. (By Mr. Watts) Okay. And that while the system was running blind and no one noticed, that "no alarm was raised by the system at the Honeywell consoles." Do you see that?

MR. NESSER: Objection, form.

A. Yes, sir, I see that.

Q. (By Mr. Watts) Okay. And so, once they realized that they were having comms problems and the SmartTool was not telling them that they were having comms problems, the system was, quote, "running blind," then they had this meeting to

Q. Okay.

A. But --

Q. Well, I'm just going to ask you about the paragraph on Atlantis.

A. Okay, okay. Okay. We're going to the last one, you said, the bottom?

Q. Sure.

A. Okay.

Q. Okay. First, Mr. Holzenthal, on August the 6th, down at the bottom, as kind of a backdrop, it says: "Atlantis recently experienced a number of single-board computer failures within the FMC topside electronic modules (TEMS). The cause of the failure is currently being investigated by the Atlantis team and others. One of the concerning issues associated with this failure was that it resulted in an undetected loss of communication." Do you see that, sir?

A. Yes, sir.

Q. Now, if we go up to the responsive e-mail from Mr. Berger, it says: "Here's a little more info. The loss of the Atlantis SBC were detected and alarmed. The issue was that these alarms were not obvious to the subsea CRO. In addition, the existing ESD logic would only be affected if the

subsea comm monitoring detected a loss.

"The later is significant, as Ray points out, as the HPU is supposed to dump when dual comms occur during an ESD. However, the subsea comm detection only monitors downstream of the SBC. Since the SBC faulted, a subsea comm alarm could not be generated and, therefore, the HPU would not vent in the event of an ESD." Did I read that correctly?

A. Yes, sir.

Q. Would you agree with me from the standpoint of logic design, that is a critical flaw in the design of the control system?

MR. NESSER: Objection, form.

A. It appears to be an important issue. I can't go much further than that without further research.

Q. (By Mr. Watts) An ESD -- you know what that is, right? It's an emergency shutdown, right?

A. Yes, sir.

Q. The system is supposed to do it automatically; but in this scenario, it can't, because the subsea comm detection only occurs downstream of the SBC, right?

MR. NESSER: Objection to form.

A. According to this, yes.

Q. (By Mr. Watts) All right. So this is an example on August the 6th of a dual comms loss where, because of the way that the logic was designed, the subsea comm detection is monitoring downstream of the SBC. And because it faulted, no alarm is ever generated, right?

MR. NESSER: Objection to form.

A. That's what this describes, yes.

Q. (By Mr. Watts) All right. This is occurring on August the 6th of 2008, a year after first oil, right?

A. That's the date of this memo, yeah.

Q. All right. Now, as the controls expert for BP, just so that we can wrap this issue up, you cannot tell me how many dual comms losses occurred in that first year, right?

A. Correct.

Q. You cannot tell me how many comms losses occurred during that first year, right?

A. Correct.

Q. You cannot tell me, of the dual comms losses that occurred, how many of them failed to generate an alarm because the subsea comm detection only monitors downstream of the SBC, right?

A. I don't have that information.

Q. All right. According to this e-mail, when you have a dual comms loss because of the logic, in effect, of the subsea comm detection being downstream of the SBC, no alarm is going to be generated, right?

A. That's what that says, yes.

Q. All right. So what that means from a practical standpoint is when you have a dual comms loss on the Atlantis during the first year from first oil, not only have you lost communication, the ability to electronically talk to the subsea equipment, you don't have the signal to the operator who needs to physically activate the hydraulic actuation in order to control the valves, right?

MR. NESSER: Objection to form.

A. I -- that's the way I understand the memo.

Q. (By Mr. Watts) Now, there's only two ways to actuate valves. One of them is electronically through the electronics that we've talked about and the computer systems we've talked about, and the other one is somebody physically initiating a hydraulic actuation of the valves, right?

A. I believe so.

I, LEO L. HOLZENTHAL, JR., read the foregoing deposition and hereby affix my signature that same is true and correct, except as noted above.

LEO L. HOLZENTHAL, JR.

THE STATE OF Louisiana)
~~COUNTY~~ Parish OF Jefferson)

Before me, , on this day personally appeared LEO L. HOLZENTHAL, JR., known to me (or proved to me under oath of through _____) (description of identify card or other document) to be the person whose name is subscribed to the foregoing instrument and acknowledged to me that they executed the same for the purposes and consideration therein expressed.

Given under my hand and seal of office this 20th day of January, 2012.

NOTARY PUBLIC IN AND FOR
THE STATE OF Louisiana

#30399

THE STATE OF TEXAS)
COUNTY OF HARRIS)

I, Mary Abbott Burkes, Certified Court Reporter, duly commissioned and qualified in and for the State of Texas, do hereby certify that there came before me on December 13, 2011, at Fulbright & Jaworski, LLP, 1301 McKinney, Suite 4800, Houston, Texas 77010, the following named person; to wit, LEO L. HOLZENTHAL, JR., who was by me duly cautioned and sworn to testify to the truth and nothing but the truth of his knowledge touching and concerning the matters in this cause; and that said witness was thereupon carefully examined upon his oath and his examination reduced to writing under my supervision; that it is a true record of the testimony given by the said witness, that said witness requested review and signature of the deposition; that changes, if any, made by the witness were returned and are contained on the Correction Page attached to the original transcript.

I further certify that I am neither attorney for nor counsel for, nor related to nor employed by any of the parties in the action in which this statement is taken, and further that I

am not a relative or employee of any attorney or counsel employed by the parties hereto, nor financially interested in this action.

IN WITNESS WHEREOF, I have hereunto affixed my hand and seal of office on this, the 13th day of December, 2011

Mary Abbott Burkes,
Certified Shorthand Reporter
In and for the State of Texas
Certification No. 5199
Date of Expiration: 12/31/11

Worldwide Court Reporters
Firm Registration No. 223
3000 Weslayan, Suite 235
Houston, Texas 77027
(713) 572-2000

EXHIBIT 118

From: Cotton, Steven L
Sent: Tuesday, August 05, 2008 3:39 PM
To: DeJohn, Kenneth P
Cc: Ragan, Frank
Subject: FW: Atlantis - update
Attachments: Atlantis - FMC SBC card failure history.pdf

Ken,

We held a meeting with FMC yesterday to discuss the path forward in resolving the subsea communication issues. Six of the single board computers have failed and are being evaluated at FMC's facility here in Houston. Scott Leonard captured most of the notes from the meeting in his e-mail below and a failure history sheet is also attached. I would like to continue to assist with the troubleshooting since this will require topside support due to the tight integration of the systems. The focus for me would be the following:

1. Setup a test system that includes the topsides interface components (Prosoft modules and controller, SCU controller and an Experion server\client).

2. Use this test system to fuly load the system to test for failures at FMC. It may be difficult to identify the failures since this is an intermittent problem and could be related to hardware or environmental issues offshore.

3. Verify the comm failure alarms. It was stated at the meeting that we did not receive any comm failure alarms. The operators only noticed the lost comms when checking the DHPT gauges. This may not be totally true since we do have comms failure alarms when the SCU loses comms to FMC's SBC. Frank and I have already discussed initiating an RFA to resolve a similar "dual comms" failure issue. We can surely do a better job to flag the lost comms on Experion is it was an issue.

4. There are known issues with the currently installed firmware on these boards so we need to evaluate the need to upgrade the firware then test the upgraded firware on out "test system" at FMC to ensure function properly.

5. The firware issue concerns certain choke movement and stops. I need to pull alarm and event logs to see if the chokes were being moved before the lost comms event. I also need to look for lost comms alarms to document what we were seeing. This may be helpful to determine the root cause of the failures.

I know we have a few priorities so I wanted to talk with you before I committed to too much effort on this. I think I can help with this issue and still have time to work our RFAs and MOCs.

Steve

-----Original Message-----
From: Chan, Roy
Sent: Tuesday, August 05, 2008 1:16 PM
To: Oza, Nita; Fleming, Ray H; Berger, Ron K (Manatee); Cotton, Steven L
Subject: FW: Atlantis - update

Please see the report from Scott.

Discovery Ex. No. **420**
Cause No.
4:09-cv-01193
Abbott v. BP

Redacted

If there is anything needs to be follow up before FMC sends the diagnose flow chart, please let me know.

Regards,

Roy
Office: +1 281 366-1131
Mobile: +1 713 530-8508

-----Original Message-----
From: Dale, Geoff (JP Kenny)
Sent: Tuesday, August 05, 2008 11:26 AM
To: Chan, Roy
Cc: Roberson, Mark B
Subject: FW: Atlantis - update

Roy/Mark,

Here is a report from Scott following yesterdays Atlantis meeting.

Regards

Geoff Dale

BP GoM DWD Projects (JP Kenny)
Tel:281 366 7267
Cell: 713 517 0770
e-mail: geoff.dale@bp.com

-----Original Message-----
From: Leonard, Scott [mailto:Scott.Leonard@jpkhouston.com]
Sent: Tuesday, August 05, 2008 11:01 AM
To: Dale, Geoffrey
Cc: Mansfield, Steve
Subject: Atlantis - update

Geoff,

To keep you informed, I attended a meeting at FMC yesterday to discuss the comms problems.

Attendees included:
Nita Oza
Ron Berger
Ray Fleming
Roy Chan
Steven Cotton
A BP Challenger working with Nita
Christopher Curran did not make it.
Several FMC support personnel including Jamie Hartley, Erik Bristol, etc I'm waiting for the circulation list to be forwarded.

The priority last week was to resume comms, demonstrate we had a fix, confirm that we had an alarm for loss-of-comms to ensure that the system was not running blind, get approval from the MMS and resume production.
This was done.

Redacted

This week the focus was on problem solving. Several issues were identified.

1/ There is a technical problem but it is not clear if this is design or manufacturing (i.e. a bad batch). It appears that the SBC card "froze". A decision tree will be generated by FMC this week and presented to BP. Further meetings will be held weekly to evaluate the process and try to progress to a solution. This has been seen as stalling on boot-up but apparently froze during operation so it's not clear if this is same fault or more than one fault. The system testability/diagnostics are limited and event logs have not captured this.

2/ The system was running blind for some time and no-one noticed until the flat-lining DHPT data was spotted during an daily check. No alarm was raised by system at the Honeywell consoles. I would have hoped that the FMC SmartTools package would have captured this event and also that the H'Well system would detect a failure. The integrated architecture for this system may complicate the system testability and also the responsibilities for effecting solutions.

3/ The first card failure was seen in February 2008 and was returned to FMC for testing in an onshore test rig. No faults found. However the rig is not identical to offshore so it may not replicate the fault. The profile of this fault was only raised when additional faults appeared in June 2008 (now totaling 6).

4/ It is not clear what action was taken by BP Ops after the first failure. Lack of alarm is a serious issue and I think that this has now been recognized and will be followed-up within BP. This is a BP Operational issue. The punchlist of bugs is still being cleared from start-up so it may not have received the priority that might have been expected.

5/ There are implications for Thunderhorse but no problems have been seen or recognized there. There are other known problems across the systems and some faults may mask other faults. Na Kika has slightly different systems so may not be faced with the same issues. The cards are running with different revisions of firmware (I asked for these to be recorded last week however it appears that this was already known) and this will be included in the diagnostics to be developed in the decision tree. There may be different Honeywell software and logic between the T'Horse and Atlantis systems, particularly on how choke commands are handled and this will be followed-up.

6/ . Last week we discussed possible causes including temperature, vibration, dodgy connections on the VME backplane, electrical noise, particular slots in the racks, power supplies, etc. Last week I suggested connecting a laptop (SPCTU) to a spare channel and logging the comms to exercise the system. This was discussed again yesterday and may be done - depends on the plan forward. (Intermittent faults are the worst kind since you have to replicate the fault to fix it.)

7/ The onshore test rig at FMC may be developed to provide a better simulation of the offshore system and include a ProSoft card to interface with a topsides Honeywell DCS system. This might capture the intermittent fault.

8/ FMC Kongsberg in Norway will get more involved. They could focus on the firmware that they burn into the cards to replace the original Motorola firmware.

I'm not sure about Roles and Responsibilities & reporting hierarchies but I'm sure Nita has pressure from senior management to get this resolved urgently. Ron Berger with

Redacted

support from Steven Cotton appear to have a good understanding of the issues. Ray Fleming (controls TA) is now involved and will coordinate some of the technical response across BP, especially with T'Horse. I have offered continued technical support to Roy Chan and Ron Berger as required.

I'll call you.

Scott Leonard
Sr. Subsea Controls Engineer
J P Kenny, Inc.
15115 Park Row,
3rd Floor,
Houston, Texas 77084-4947
Direct: +1 (281) 675-1571
Fax: +1 (281) 646-9827
Cell: +1 (281) 701 8302
scott.leonard@jpkhouston.com
www.jpkennyhouston.com

-----Original Message-----
From: Chan, Roy [mailto:Roy.Chan@bp.com]
Sent: Monday, August 04, 2008 12:21 PM
To: Leonard, Scott
Cc: Oza, Nita
Subject: FW: Atlantis DWG request

Scott,

Attached are some overall system dwgs for your info.

As we spoke, we will have a meeting with FMC at 3:00pm today at their new aftermarket building.

Regards,

Roy
Office: +1 281 366-1131
Mobile: +1 713 530-8508

Redacted

Date	TPU Location	Event	
2/29/2008	C1 1A	Problems with 123A, 124A, 143A	
3/5/2008	C1 1A	Swapped board with platform's spare. Board brought back to FMC.	#1
6/20/2008	C2 1B	Board stopped communicating	
6/27/2008	C2 1B	Swapped board with C8 1A. Brought board back to FMC.	#2
6/30/2008	C2 1B	Board worked at FMC	
7/27/2008	C2 1B (original C3 1A)	Board stopped communicating	#3
7/29/2008	C2 1A	Board stopped communicating	#4
7/30/2008	C2 1A	Worked after board was reseated	
7/30/2008	C2 1B (original C3 1A)	Swapped with new board. Will be brought back to FMC.	
7/30/2008	C1 1A (original)	Board worked at FMC	
7/30/2008	C3 1B	Noticed board not communicating. Will be brought back to FMC.	#5
7/30/2008	C3 2B	Noticed board not communicating. Will be brought back to FMC.	#6

Redacted

EXHIBIT 119

From: Cotton, Steven L
Sent: Tuesday, October 28, 2008 7:27 AM
To: Waterhouse, David (GVA Consultants)
Cc: Little, Joshua J; Ragan, Frank; Herrmann, Douglas T; Gipson, Les
Subject: Subsea Comms MOC-08-218 Hazard Review

Dave,

I'm planning an informal review for the subsea comms MOC. During several failures of the FMC equipment we encountered failure modes on the topside equipment that were not considered during the design. We are adding the topsides links into the "dual comms" alarm logic. When communications are lost to the subsea wells, the safety system can not send commands to close the wells so the SIS logic is setup to dump the topsides hydraulic circuits that feed the subsea wells ONLY if an ESD occurs when dual comms are lost. The loss of the dual links between the topsides SIS and FMCs topsides equipment was not part of the original design so it is now being added.

We're also adding alarm flags to each subsea well graphic to alert the operators of communications loss. This alarm is invisible during normal operations and only appears when comms are lost. It does not interfere with any controls so it will not introduce any operability issues.

Let me know if you see any issues with the hazard review. It is intended to be minimal and I'll add the names of the operators who discuss this with the automation specialist.

Atlantis hazard Review MOC 08-...

1440-20-IC-SP-SLC 218-1 Rev1 Su...

Steve Cotton
Control Systems Engineer
BP GOM Deepwater Production
281 366-0975 Office
713 305-2818 Cell Phone

Redacted

EXHIBIT 120

From: Peloubet, Robert R <Robert.Peloubet@bp.com>
Sent: Monday, January 22, 2007 7:26 PM
To: Oneto, Rick <Rick.Oneto@BP.com>
Cc: DeJohn, Kenneth P <Kenneth.DeJohn@BP.com>; Ragan, Frank (Mustang Engineering) <frank.ragan@mustangeng.com>; Brown, Bill (James W) <Bill.Brown@BP.com>; Maxwell, Steve J (Gregg Valdes) <Steve.Maxwell@BP.com>; Roades, Barth L <Barth.Roades@BP.com>; LaRue, Kelley A <Kelley.LaRue@BP.com>; Carter, Donnie J <Donnie.Carter@BP.com>; Rayburn, Dean M <Dean.Rayburn@BP.com>; Goodrich, Stephanie <Stephanie.Goodrich@BP.com>; Gray, Thomas B <Tom.Gray@BP.com>; Judice, Ted P <Ted.Judice@BP.com>
Subject: RE: Operations Managers Meeting and Higher -

Rick,

I completely agree that any software upgrade/update/modification be approved through a MoC, regardless of who is requiring the change. This was one of the issues in the Holstein turbine generator backfire incident, and your aux generator incident. The Atlantis team is the responsible party for changes to the asset, and this does include software changes. For the change being proposed for PHD/PI, if there is a new architecture then Digital Security should be able to provide documentation suitable for the MOC. If they can't, then you should stop the job until they can provide the appropriate documentation.

Software updates will be needed, we live in a digital world. Where we've been successful is when we understand what the change is for, how should it occur (installation procedure), what could go wrong (including knowing the consequences) and what assurance is needed (testing; upgrade backup server first; perform during turnaround; etc). Where we've been unsuccessful is when one or more of these steps was bypassed.

Regards,

Bob

Bob Peloubet, P.E.
Deputy SPU Engineering Authority
BP Gulf of Mexico
☎ *281.366.5481*
713.857.9954

"CONFIDENTIALITY NOTICE: This message is intended only for the use of the individual or entity to which it is addressed and may contain information that is confidential. If you have received this message in error, please notify the sender immediately and delete the e-mail and any attachments from your computer and files. Thank you."

From: Oneto, Rick
Sent: Monday, January 22, 2007 5:10 PM
To: Peloubet, Robert R
Cc: DeJohn, Kenneth P; Ragan, Frank (Mustang Engineering); Brown, Bill (James W); Maxwell, Steve J (Gregg Valdes); Roades, Barth L; LaRue, Kelley A; Carter, Donnie J; Rayburn, Dean M; Goodrich, Stephanie; Gray, Thomas B
Subject: FW: Operations Managers Meeting and Higher -
Importance: High

Frank,

I did not get this email directly but will answer one of your questions. It is my expectation that any software upgrade be required to fulfill all the elements of an MOC in order to ensure we have covered all avenues of potential impact should something go wrong. The MOC process is structured to enable proper evaluation doing the upgrade prior to execution of the download and may also require a HAZID or HAZOP. This is the primary reason, but not the only reason, why we are building a second Operator Training Simulator for the Houston office. In my opinion software upgrades constitutes a change in logic. Maybe not control logic but base operating system logic and therefore requires an MOC.

These requirements apply to the GoM Functional teams as well as the Atlantis PU personnel and I will fully support any "Stop the Job" accordingly.

Bob,

Please scroll down to the email from Frank Ragan and weigh in on this if necessary.

Regards,

Rick Oneto
BP America, Inc.
Operations Manager - Atlantis
281-366-4061 (Office)
832-347-1864 (Cell)

From: Brown, Bill (James W)
Sent: Monday, January 22, 2007 2:54 PM
To: Oneto, Rick; Goodrich, Stephanie; Rayburn, Dean M; Carter, Donnie J
Cc: Ragan, Frank (Mustang Engineering); Maxwell, Steve J (Gregg Valdes); Roades, Barth L; LaRue, Kelley A
Subject: Operations Managers Meeting and Higher -
Importance: High

During today's discussion regards the PLC logic changes and the resulting problems of the Aux Generator I recalled the email below.

I think that BP needs to come to grips with the heavy dependence on software computer programs and how much they impact our production and our safety.

We need a way and means to have the logic or software changes MOC and checked to prevent what happened on the PLC 8 and Aux Generator from reoccurring.

There is not (to my knowledge) any requirement for MOC of software and/or logic changes/updates/upgrades/etc.

This is not going to be able to be handled by our current MOC review process because most of us are not literate enough on software to actually understand the changes being made and their impacts.

BP needs to get a group of people together that understand this and probably fairly quickly and they need to be workers not managers

It needs to be done based on experience and knowledge and not on years of service in the company

---

From: Brown, Bill (James W)
Sent: Sunday, January 21, 2007 4:48 PM

To: Oneto, Rick; Goodrich, Stephanie
Cc: Ragan, Frank (Mustang Engineering); Maxwell, Steve J (Gregg Valdes); Roades, Barth L; LaRue, Kelley A
Subject: RE: Additional Equipment for Atlantis

way over my head and looks like this needs to get kicked up into Operations Managers to come up with a business plan and person responsible for the entire GOM before we have a major incident which might be repeated on more than one asset

---

From: Ragan, Frank [mailto:Frank.Ragan@mustangeng.com]
Sent: Sunday, January 21, 2007 12:23 PM
To: Maxwell, Steve J (Gregg Valdes); Brown, Bill (James W)
Cc: Goodrich, Stephanie
Subject: RE: Additional Equipment for Atlantis

Bill & Steve,

I'm glad this issue came up, I have a similar MoC/ no MoC issue I would like to bring some attention to.

First, my thoughts on the PI/PHD issue. This implementation is not yet complete. There was no specific design for where certain pieces of software would reside, and so, the design has evolved over time. I agree that the change is for the better, but I am not aware of an issued document that forms the design basis and the foundation for future changes. I think that there should be a document, either a high level drawing or a text description, that defines what software is located where, used by who, for what purpose. Then we would all be on the same page. An MoC now would have no previous document to reference, but could introduce this document.

My issue is Microsoft updates and their application to the control system. You may or may not have noticed that Microsoft releases patches and security updates for their software on a frequent basis. Some vendors, like Honeywell, test these updates and issue them as approved for their systems. Most vendors do not test or issue statements. BP internally has a group that reviews these updates, and make recommendations regarding the criticality of the update, Steve has been distributing these notices.

What this boils down to is, should these updates be MoC'ed? Would this review be any more than a rubber stamp of the vendor/BP/Honeywell recommendation (none of our team really has the experience to make a judgment)? There is a risk that fixing one bug would introduce another, and any time we reload an operating system, there's a risk of problems. In most cases, we would identify the problem when updating the backup computer first, but it's not unperceivable that a bug might get introduced that affects the ability to control the platform someday. Who would take responsibility for fixing something that wasn't broke, and impacting production?

A third issue is a report that the IMMS will receive an upgrade in it's software soon. Again, can BMT and Pierre make this decision on their own? This system is live.

I think all of these issues are similar. They deal with the control system software, and how different teams access data, and who manages the updates. There should be some clear direction on who has the authority to make these changes, and when an MoC or other review is required.

Frank

From: Maxwell, Steve J (Gregg Valdes) [mailto:Steve.Maxwell@bp.com]
Sent: Fri 1/19/2007 10:01 AM
To: Brown, Bill (James W)
Cc: Goodrich, Stephanie; Ragan, Frank
Subject: RE: Additional Equipment for Atlantis

Bill,

The actions around #2 are basically to move a piece of PI software that currently resides on the PHD server and locate it on another server. The mechanism of the data transfer remains the same, we're just

EXHIBIT 121

UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF LOUISIANA

IN RE: OIL SPILL BY THE OIL RIG "DEEPWATER HORIZON" IN THE GULF OF MEXICO, ON APRIL 20, 2010	)	MDL NO. 2179
	)	SECTION "J"
	)	JUDGE BARBIER
	)	MAG. JUDGE SHUSHAN

****
VOLUME 1
****

Deposition of Sir William Castell, taken at Kirkland & Ellis International, 30 St. Mary Axe, 22nd Floor, London EC3A 8AF, England, United Kingdom, on the 22nd of June, 2011.

Q. (By Mr. Cunningham) What could possibly prohibit BP from conducting an MAR, a Major Accident Risk Assessment, of its own on a contracted MODU that is drilling on behalf of BP?
MR. BROCK: Objection, form.
Q. (By Mr. Cunningham) What could possibly prevent that?
MR. STUART: The same objection.
MR. BROCK: Objection, form.
A. I found through the Macondo Well, sir, that it's been extremely difficult, even in crisis situations, to get appropriate drawings that allow us

to assess the position of various pieces of equipment. So I can see automatically and immediately in response to your question that even when lives are threatened, that we're unable to get the full detail that allows us to assess the situation.

118

Q. (By Mr. Cunningham) Well, if you don't get the full details, you don't have to hire that subcontractor, do you, you can hire them conditioned on getting whatever information you want, can't you?

MR. BROCK: Objection, form.

A. But if -- if you're in a position with a subcontractor where it's work in progress, and you need to update your situation in the light of current knowledge, sometimes it becomes extremely difficult. So I -- I -- I need to be, as I wish and I've already called for it, to be advised on how we assure ourselves the Safety Standards we wish to apply can be appropriately contracted with subcontractors without removing their responsibilities for Safety, under their line accountability systems. It's quite a complex system, but it needs to be revolved.

Q. (By Mr. Cunningham) You know that BP hires and pays the subcontractors, don't you?

A. Well, I -- I -- I know that, sir. But I also know that we were unable to get critical drawings during the Macondo Well, which would have helped us, facilitate us to contain what was occurring -- may have helped us contain the level of spill, and we couldn't obtain those drawings. So even though we have subcontractors, we were unable to get what we felt was

119

a transparent response.

Q. (By Mr. Cunningham) You're talking about after --

MR. GODWIN: Objection, form.

Q. (By Mr. Cunningham) -- the blowout? You're talking about after the blowout?

A. I'm giving you an example, sir, of when it's become difficult.

EXHIBIT 122

UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF LOUISIANA

IN RE: OIL SPILL BY THE OIL RIG "DEEPWATER HORIZON" IN THE GULF OF MEXICO, ON APRIL 20, 2010	)	MDL NO. 2179
	)	SECTION "J"
	)	JUDGE BARBIER
	)	MAG. JUDGE SHUSHAN

****
VOLUME 1
****

Deposition of Gillian Susan Cowlam, taken at Kirkland & Ellis International, 30 St. Mary Axe, 22nd Floor, London EC3A 8AF, England, United Kingdom, on the 7th of June, 2011.

Q. Was there any additional information that you would like to have had in the work that you did that you were not be able to obtain?

MR. BROCK: Objection, form.

A. During the time that I was there, it would have been more useful to have had up-to-date drawings. In order to inform what we were doing, it would have been much more useful had we had all the infor -- all the Witness Statements at the time.

EXHIBIT 123

UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF LOUISIANA

IN RE: OIL SPILL BY THE OIL RIG "DEEPWATER HORIZON" IN THE GULF OF MEXICO, ON APRIL 20, 2010	)	MDL NO. 2179
	)	SECTION "J"
	)	JUDGE BARBIER
	)	MAG. JUDGE SHUSHAN

Deposition of STEVEN LEON NEWMAN, taken at The Four Seasons Hotel, 1300 Lamar, Ballroom A, Houston, Texas, 70130, on the 30th day of September, 2011.

Q. (BY MR. HASSINGER) The first item you mentioned was ensuring -- as part of alert 114, ensuring that drawings of the BOP were accurate.

10:31 A. Yeah.

Q. Because you found outpost explosion that the drawings that you had of the BOP were not accurate?

MR. ROBERTS: Form.

10:31 Q. (BY MR. HASSINGER) Is that true?

A. What we learned in the initial few hours following the explosions as we attempted to intervene on the BOP with the 10:32 ROV, we learned that the actual arrangements on the BOP did not -- were not properly reflected on the drawings.

Q. Did you determine why that was; that is, why the drawings were not accurate, 10:32 they did not reflect as-built conditions?

A. We had made a change to the BOP at the request of BP to convert the lowermost ram from a -- from a well control element to a BOP test ram, and that -- at the time that 10:32 conversion was made, the -- that -- that had

not been properly reflected on the drawings going forward.

The other thing was that the -- the ST locks had been -- the plumbing for the 10:32 ST locks had been modified, so that when you activated the high-pressure circuits on the BOP, the ST locks activated automatically as part of that same circuit; and that had not been reflected on the drawings.

EXHIBIT 124

00001

UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF LOUISIANA

IN RE: OIL SPILL by the OIL RIG, DEEPWATER HORIZON in the GULF OF MEXICO, April 20, 2010	)	MDL NO. 2179
	)	SECTION "J"
	)	JUDGE BARBIER
	)	MAG. JUDGE SHUSHAN

VOLUME 1 OF 2

Deposition of PATRICK CAMPBELL, taken at Pan-American Building, 601 Poydras Street, 11th Floor, New Orleans, Louisiana, 70130, on July 12, 2011.

00351

Q. Okay. And do you recall during the BOP intervention phase learning that the as-built or as-deployed BOP plumbing didn't match the schematics that were originally provided?

A. We -- we did learn that.

Q. Okay. And in your opinion did that have an effect on the ability of the teams to respond through BOP intervention?

A. If you're talking about the earliest B -- intervening on the BOP, the -- the DEEPWATER HORIZON BOP that was already on the well, the answer is yes, it did have an impact.

Q. What sort of impact?

A. Well, to put it simply, we're barking up the wrong tree. In other words, we're trying to follow with a flying eyeball

00352

where that line initiates and where it terminates, and that doesn't match up with the drawing.

Now, the drawing which we had at that moment in time came from Transocean. We asked for a drawing from Cameron, but, of course, Cameron had delivered the system in 2001 and had not been asked to make any modifications to that -- to their drawing.

So we said, Well, that's

actually not very useful for us either. So we focused on getting updated as-built drawings from Transocean.

EXHIBIT 125

UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF LOUISIANA

IN RE: OIL SPILL BY THE OIL RIG "DEEPWATER HORIZON" IN THE GULF OF MEXICO, ON APRIL 20, 2010	)	MDL NO. 2179
	)	SECTION "J"
	)	JUDGE BARBIER
	)	MAG. JUDGE SHUSHAN

****
VOLUME 1
****

Deposition of Robert Joseph Turlak, taken at the Pan-American Building, 601 Poydras Street, 11th Floor, New Orleans, Louisiana, 70130, on the 28th day of September, 2011.

Q. Okay. After the incident, were you made aware that there had, in fact, been modifications to the BOP that were not reflected in the Transocean drawings?

A. I saw that, yes.

Q. Okay. And do you know why the modifications were not reflected in the Transocean drawings?

A. No, sir.

Q. Okay. Would you have expected modifications to be reflected in Transocean

Specifications and drawings?

MR. BAAY: Objection to form.

A. I would hope so.

Q. And did you also understand that the conversion was not performed correctly because the ROV intervention panel was not modified?

MR. DOFFERMYRE: Objection to form.

A. I'd heard that, yes.

way: Is it fair to say that as a result of this, the ROV intervention was still plumbed to the test ram?

MR. DOFFERMYRE: Objection, form.

A. I had seen that, yes.

Q. (By Mr. Morriss) Okay. And it should have been modified to operate through the middle VBR or someplace other than the test ram?

MR. DOFFERMYRE: Objection, form.

A. If they still wanted operability of that ROV port, yes.

Exhibit "A" to Declaration of David L. Perry

FILE COPY

PERRY & HAAS
ATTORNEYS AT LAW

2300 Frost Bank Plaza | P.O. Box 1500 | Corpus Christi, Texas 78403
Phone: 361-880-7515 | Fax: 361-887-9507 | Email: DLPerry@PerryHaas.com | www.PerryHaasGroup.com

April 9, 2009

Via Federal Express overnight delivery
Eric H. Holder, Jr.
Attorney General of the United States
U.S. Department of Justice
950 Pennsylvania Avenue, NW
Washington, DC 20530-0001

Via hand delivery April 10, 2009
Tim Johnson
Acting United States Attorney
Southern District of Texas
515 Rusk Avenue, Suite 1102
Houston, TX 77002

Re: Kenneth W. Abbott – BP Atlantis Project

Dear Mr. Holder and Mr. Johnson:

David L. Perry
Board Certified in Personal Injury Trial Law by the Texas Board of Legal Specialization
A Member of the Perry Haas Group – Independent Law Firms Practicing Cooperatively

Evidence Submitted:

Submitted with this letter is a CD containing electronic copies of numerous documents, all of which are true copies of business records of the BP Atlantis Project, with the exception of a few which show on their face to have been created February 3, 2009; all

documents are true and correct copies of what they appear to be. Mr. Abbott had access to and acquired copies of these documents as part of his work for the BP Atlantis Project. The documents substantiate his knowledge as described below.

Enclosures:

1. An internal BP email written by Atlantis Project management August 15, 2008, which summarizes the gravity of the situation;
2. A list of BP's civil and criminal violations compiled in November, 2007; since this list was compiled, BP has
    a. Pled guilty to criminal violations of the Clean Air Act which resulted in an explosion killing 15 people and injuring hundreds in federal court in Houston;
    b. Pled guilty to criminal violations involving knowing neglect of pipeline corrosion in Alaska; and
    c. Been sued civilly by the U.S. Department of Justice and Environmental Protection Agency for major pipeline spills in Alaska;

3. A CD containing copies of multiple BP internal documents supporting Mr. Abbott's information.

We would be happy to present Mr. Abbott for an interview with a Department of Justice attorney or investigator at your very earliest convenience. He will be glad to review the documents being furnished and explain their significance. We would suggest that it might be desirable for the interview to include representatives of the Department of the Interior and the Environmental Protection Agency, if you so choose.

We urge the Government to act quickly on this information to prevent the catastrophic consequences which could result from continued operations without the necessary "as-built" drawings and documents.

Yours very truly,

David L. Perry
Attorney for Kenneth W. Abbott

DLP:sbd
Enclosures (3)
cc: Gerald Birnberg
René Haas
Patricia A. Shackelford
Kenneth W. Abbott

Exhibit "B" to Declaration of David L. Perry

ATTACHMENT C

AFFIDAVIT OF MICHAEL E. SAWYER, P.E., CSP

1. I, Michael E. Sawyer, am more than 21 years of age, and I am competent to make this affidavit. The facts stated below are true and correct and are based on my personal knowledge, formal education, and professional experience.

Professional Background and Experience

2. I am a licensed Professional Engineer in the States of Texas and Massachusetts. I hold a Bachelor of Science in Safety Engineering from Texas A&M University and have over 28 years of experience in the area of process safety engineering in the oil and gas industries. I also maintain a Certified Safety Professional (CSP) certification.

3. My broad-based process safety experience includes upstream[1] projects such as leading hazard analyses of Gulf of Mexico facilities for Pemex, Shell Exploration and Production, Shell Venezuela, Petrolera Zuata (Petrozuata Venezuela), and Chevron's Tombua-Landana platform.

4. I also have significant downstream process experience, such as analysis of process designs beginning with front-end engineering design and continuing through to final assessment and hazard analysis of the "approved" design. This experience includes projects such as world-scale ethylene production facilities, ammonia processing plants, and marine export terminals for oil and gas.

5. My experience also includes supporting the development and implementation of proactive process safety programs. Paramount to the development of these programs is document control and management of design changes. In addition, I have facilitated numerous audits of process safety programs and conducted detailed evaluations of

[1] In the process industries, "upstream" refers to exploration and production, while "downstream" refers to refining and marketing.

engineering design documentation and management of design changes throughout my career.

Basis of This Affidavit

6. This affidavit and the opinions contained herein are based upon my review of:

(a) documents and drawings submitted by BP to the Minerals Management Service (MMS)[2] as part of the agency's investigation of Atlantis, under the cover of a letter from Simon Todd, BP Vice President, dated August 9, 2010;[3]

(b) documents and drawings submitted by BP to MMS as part of BP's permit application to install the Atlantis Production Safety System; and

(c) documents and drawings produced in the instant lawsuit pertaining to the controls and safety systems for the Atlantis.

Opinions Regarding Atlantis Drawings Submitted With Todd's Books 1-6 and BP's PSS Permit Application

7. Of the 2,104 drawings submitted as Todd's Books 1-6 responding to the agency's request for the certified "as-built" plans and specifications required to be maintained by OCSLA regulations Subpart I, only 608 (29%) drawings are marked with the seal or stamp of a registered professional engineer for the current revision of the drawing. Six (6) of those 608 drawings were produced by GVA and covered under the Platform certification departure that MMS granted for the design work performed in Sweden by GVA Consultants.

8. For the Topsides structure, almost 100% of Mustang Engineering drawings were initially certified with the seal or stamp of a registered professional engineer. As the

[2] Because the permitting activity for the Atlantis took place when the agency tasked with implementing the OCSLA regulations was called MMS, I refer to it as MMS in this affidavit.
[3] Letter attached as Exhibit 1.

drawings progressed through revisions, many certifications were not carried forward. In the end, out of 950 Mustang drawings, only 600 (63%) were certified with the stamp or seal of a registered professional engineer for the current revision.

9. Of the 1154 drawings for the hull, floating, and mooring structure of the platform, only 8 are certified with a registered professional engineer's seal or covered under the GVA departure. Daewoo Shipbuilding and Marine Engineering (DSME), a Korean shipbuilding firm, prepared 1013 of the 1154 drawings.

10. Of the 2,104 drawings submitted as Todd's Books 1-6, only 72 drawings (3.4%) were marked "As-Built." Of the 2,104 drawings, 1,666 of the drawings (79%) were dated prior to May 2005, when the Atlantis Platform integration began and 226 (11%) of the drawings have no date.

11. Of the 522 design drawings BP submitted to MMS with the Atlantis Production Safety System Permit Application, none (0%) was marked with the seal or stamp of a registered professional engineer.

12. Ninety percent (90%) of the persons whose initials appear in the "engineer" block of the Atlantis Production Safety System designs are not confirmed Texas registered professional engineers. Ninety-seven (97%) of the persons whose initials appear in the "approved" block of the designs are not confirmed registered professional engineers.

13. Todd's August 9, 2010 letter purported to enclose a list of registered professional engineers who reviewed and approved the designs of the mechanical and electrical systems of the Atlantis Production Safety System. None of the engineers on the enclosed list initialed or sealed the designs produced to MMS; four (4) had incorrect professional engineering information; two of the Texas professional engineering license numbers do

not exist; and one engineer listed had his license granted in 2009, well after the August 1, 2005 Production Safety System certification for Atlantis.

14. To further substantiate the numbers and percentages stated in Paragraphs 7-13 above, attached hereto as Exhibit 2 are spreadsheets identified as MS8-2 through MS8-7 (Amended) and my Analysis of MS8 Books 1-6 Drawings.

Opinions Regarding Atlantis Controls and Safety Systems

15. Any and all safety planning assumes there will be inadvertent hydrocarbon releases. The purpose of safety systems is to mitigate the unwanted consequences that could harm personnel, property, and/or the environment.

16. The first priority in the event of an unplanned release is to shutoff (isolate) the inflow of hydrocarbons (fuel) in order to minimize its effects. The purpose of the Emergency Support System (ESS), which is part of the Production Safety System, is to mitigate consequences of hydrocarbon release, fire, or process safety system malfunction. OCSLA Subpart H regulations require all tubing open to hydrocarbon bearing zones to be equipped with safety devices to shutoff flow in the event of an emergency. The regulations describe valves used to isolate the well during an emergency; such as Surface Safety Valves (SSVs), Underwater Safety Valves (USVs), and Surface Controlled Subsurface Safety Valves (SCSSVs). The first shuts off inflow of production from riser onto the platform (boarding shutdown valve); the USV shuts off pressure and flow at the tree; and the SCSSV shuts off all flow and pressure deep in the well itself.

17. The regulations require closing the SSV in 45 seconds and the SCSSV in not more than 2:45 minutes after automatic detection of an abnormal condition or actuation

of an Emergency Shutdown (ESD). See 30 CFR 250.803(b)(4)(ii). This is intended to mitigate any hydrocarbon release and avert a catastrophe.

18. OCSLA Subpart H regulations allow design-delayed closure time greater than 2:45 minutes based on the well's mechanical/production characteristics and District Supervisor's approval. Atlantis was granted a waiver extending closing of the SCSSV with a delay timer for up to an hour, during which time various other subsea valves are commanded closed to isolate the flow; these valves are to be actuated by electronic signals from the Subsea Controls System (SCSS). If the Subsea Controls System electronics or communications with the valve actuators fail, those valves will remain open, and the only isolation will be at the Platform boarding valve. Reliance on only the boarding valve is a violation of 30 CFR 250.803(b)(4)(ii) and creates unnecessary dangers to personnel, the platform, and the environment. For this reason, the regulations do not allow delay in closing the SCSSV by the delay timer if there has been a loss of communications with the subsea valves. This is a requirement of the shutdown logic sequence and timing as approved by MMS.

19. The Atlantis controls system as designed and built does not recognize a loss of communications with a well resulting from failures of the Single Board Computers (SBCs). In fact, the Atlantis controls system as designed and built continues to allow the use of the 60 min. delay timer even when well communications are lost and the tree valves remaining open. This leaves the Platform protected only by the boarding valve, with the riser/flowline under high pressure. This could be very dangerous. Considering the large quantity of hydrocarbons stored on Atlantis, it is quite possible for an upset (hydrocarbon release) to escalate suddenly into a fire and explosion during the delay.

Such an event might cause damage the physical mechanics of the ESS so that it could no longer signal the hydraulic power unit to dump hydraulics and shutdown the SCSSVs, and also cause physical damage to the boarding valve or the pressurized flowline/riser resulting in a release of the pressurized contents of the flowline. In that event, the flowline contents under high pressure continually fed by the flow from the open wells could provide an uninterrupted fuel source that would almost certainly ignite with catastrophic results similar to the Deepwater Horizon.

20. The high-pressure hydraulic supply from the Hydraulic Power Unit (HPU) accepts commands from the ESS and is used to depressure the hydraulics and close the SCSSV and other subsea valves during an emergency such as the scenario above. Although safety and process logic diagrams for emergency and process shutdowns show an immediate initiation of subsea ESD sequence during a fire signal, the HPU shutdown logic shows delay timers from 60 to 120 minutes before initiation, which leads to questions regarding priorities during an emergency.

21. Pursuant to the provisions of 28 U.S.C. §1746, I declare under penalty of perjury that the foregoing is true and correct.

Executed this 28 day of December, 2011 in Houston, Texas.

MICHAEL E. SAWYER, P.E., CSP

Attached Exhibits:
Exhibit 1: 8/9/2010 Todd/BP Letter to MMS
Exhibit 2: Sawyer Spreadsheets

EXHIBIT 1

BP Exploration & Production Inc.

200 WestLake Park Boulevard
Houston, Texas 77079-2696
Phone: 281-366-0307

Simon Todd
Vice President, Thunder Horse
Gulf of Mexico

August 9, 2010

Bureau of Ocean Energy Management, Regulation,
and Enforcement
Attention: Mr. Michael J. Saucier (MS 5200)
1201 Elmwood Park Boulevard
New Orleans, Louisiana 70123

Re: Atlantis Platform

Dear Mr. Saucier:

On July 26, 2010, BP Exploration & Production, Inc. ("BP") received your letter dated July 21, 2010, in which the Bureau of Ocean Energy Management, Regulation, and Enforcement ("BOEM") requested copies of engineering drawings pertaining to the Atlantis platform. BP's response is enclosed.

Books 1-6 contain BP's response to your request (No. 1) for copies of structural drawings referenced in 30 C.F.R. § 250.903 and § 250.905. Further, in response to your request and pursuant to 30 C.F.R. § 250.905(k), BP hereby verifies the following with respect to the Atlantis platform:

> The design of this structure has been certified by a recognized classification society, or a registered civil or structural engineer or equivalent, or a naval architect or marine engineer or equivalent, specializing in the design of offshore structures. The certified design and as-built plans and specifications will be on file at BP's offices in Houston, Texas.

Discovery Ex. No. 7
Cause No.
4:09-cv-01193
Abbott v. BP

Because the Atlantis platform is comprised of several different major components, in making the foregoing certification statement BP relies on the work of multiple engineers, rather than any single engineer.

Books 7-10 contain BP's response to your request (No. 2) for copies of those drawings associated with BP's Production Safety System Application, as well as copies of drawings of the subsea systems including umbilicals.

The table attached to this letter responds to your request for a list of the registered professional engineers associated with BP's certification in its letter dated August 1,

2005, concerning the design for the mechanical and electrical systems for the Atlantis semi-submersible production unit.

As BP has done throughout the agency's audit of engineering documents associated with Atlantis, BP has endeavored to respond to your letter as fully and completely as possible based on BP's understanding of the scope and intent of your requests. If upon reviewing this response BOEM determines that BP has not supplied all of the drawings and information that BOEM requires, please let us know and we will supplement this response to the best of our ability. As BOEM reviews BP's response to your letter, please note the following:

(1) Because Atlantis is a semi-submersible platform, some of the types of structural drawings listed in the current platform regulations and identified in your letter (such as structural drawings pertaining to turrets) are categorically inapplicable to Atlantis.

(2) Because the enclosed drawings were prepared by several different engineering firms, the nomenclature used to indicate the revision status of drawings differs among the numerous drawings contained in the enclosed books. For example, drawings by DSME used "Rev. 60" to denote an "as-built" drawing, while "as-built" drawings by FMC Technologies were typically labeled "design" because FMC builds equipment and structures to the design.

If BOEM requires any additional explanation of the enclosed materials, or if BOEM requires BP to supplement the enclosed materials, please let us know.

Sincerely,

Simon P. Todd

Vice President, Thunder Horse

Last Name	First Name	Area of Expertise	Credentials (State, Registration #)	Company (at time of Atlantis design)	Company address	Company phone
Hung	Thomas	Electrical Engineer	Texas, Reg # 48916	KBR	601 Jefferson, Houston, TX	713-753-7524
Norman	Dave	Electrical Engineer	UK, Chartered Engineer	BP	601 Jefferson, Houston, TX	713-753-8184
Amin	Henry	Lead Mechanical Engineer	Texas #53795	Mustang	16001 Park Ten Place, Houston, TX 77084	713-215-8000
Andersen	David	Mechanical Engineer	Texas, Reg # 91479	KBR	601 Jefferson, Houston, TX	713-753-5433
Barton	David	Structural Engineer	Texas, Reg # 78770	KBR	601 Jefferson, Houston, TX	713-753-5644
Behari	Sam	Process Engineer	Texas #78420	Mustang	16001 Park Ten Place, Houston, TX 77084	713-215-8000
Butler	Myles	Mechanical Engineer	NF, Canada Reg # 01825	KBR	601 Jefferson, Houston, TX	713-753-2089
Chumchal	William	Project Manager	Texas #85802	Mustang	16001 Park Ten Place, Houston, TX 77084	713-215-8000
Comeaux	Ken	Electrical Engineering	Louisiana #0023284	Mustang	16001 Park Ten Place, Houston, TX 77084	713-215-8000
Desai	Mike	Mechanical Engineer	Texas, Reg # 49859	KBR	601 Jefferson, Houston, TX	713-753-7403
Ellis	John	Upstream Coordinator/Civil/Struct/Marine PL Engineering	Texas #51872	Mustang	16001 Park Ten Place, Houston, TX 77084	713-215-8000
Ferris	Mark	Equipment Engineering	Texas #80118	Mustang	16001 Park Ten Place, Houston, TX 77084	713-215-8000
Gephart	Joe	Piping Engineer	Texas #76632	Mustang	16001 Park Ten Place, Houston, TX 77084	713-215-8000
Gilliam	William (Ken)	Control Systems Engineer	Texas, Reg # 80120	KBR	Houston, TX	713-215-8000
Hart	Jerry	Topsides Interface Coordinator	Texas #36323	Mustang	16001 Park Ten Place, Houston, TX 77084	713-215-8000
Holmes	Mike	Upstream Process Engineering	Texas #41121	Mustang	16001 Park Ten Place, Houston, TX 77084	713-215-8000
Knowles	Steve	Upstream Sector Manager	Texas #72991	Mustang	16001 Park Ten Place, Houston, TX 77084	713-215-8000
Lake	Jeff	Mechanical Facilities Engineering	Texas #61819	Mustang	16001 Park Ten Place, Houston, TX 77084	713-215-8000
MacFarlane	James	Korean Site Construction MGR	Alberta, Canada Reg # 39706	BP Consultant	Unknown	281 222 0077
Parihar	Arun (A.K.)	Process Engineer	Texas, Reg # 92095	KBR	Houston, TX	281-828-3500
Peters	Walt	Mechanical Engineer	Texas #46805	Mustang	16001 Park Ten Place, Houston, TX 77084	713-215-8000
Phillips	Ralph	Project Engineer	Texas #53702	Mustang	16001 Park Ten Place, Houston, TX 77084	713-215-8000
Redmon	Paul	President	Texas #56485	Mustang	No Longer employed by Mustang	
Rivas	Gonzalo	Instrument Engineer	Texas #102825	Mustang	16001 Park Ten Place, Houston, TX 77084	713-215-8000
Robinett	Bernie	Mechanical Engineer	Texas #55614	Mustang	16001 Park Ten Place, Houston, TX 77084	713-215-8000
Robleto	Robert	Piping Stress Engineer	Texas, Reg # 46277	KBR	601 Jefferson, Houston, TX	713-753-7105
Sanders	Joe	Shared Engineering	Texas #49245	Mustang	16001 Park Ten Place, Houston, TX 77084	713-215-8000
Sengupta	Aparajita	HVAC Engineer	Texas, Reg # 49833	KBR	Houston, TX	713 892 0999
Shirley	Richard	Upstream Project Engineer Manager	Texas #56203	Mustang	16001 Park Ten Place, Houston, TX 77084	713-215-8000
Smith	Sam	Rotating Eqpt. Engineer	Texas #72670	Mustang	16001 Park Ten Place, Houston, TX 77084	713-215-8000
Voltz	Don	Electrical Engineer	Alaska AEL E 9828	Mustang	No Longer employed by Mustang	
Westbrook	Dick	Upstream Project Director	Texas #54247	Mustang	16001 Park Ten Place, Houston, TX 77084	713-215-8000

Case 4:09-cv-01193 Document 346 Filed in TXSD on 04/04/12 Page 11 of 90

EXHIBIT 2

MS8-2: Todd Production Inventory (Book 01)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-20-ST-DG-2000-003	Weld Connection Details	Rev 3; Revised after IFC	2/12/03	6/24/03	MCH		NO		Rev 3	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2000-004	Weld Connection Details	Rev 3; Revised after IFC	2/12/03	8/26/03	MCH		NO		Rev 3	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2000-005	Weld Connection Details	Rev 1; Revised after IFC	2/12/03	4/30/03	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2000-006	Weld Connection Details	Rev 2; Revised after IFC	2/12/03	6/24/03	MCH		NO		Rev 2	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2000-007	Weld Connection Details	Rev 1; Revised after IFC	2/12/03	6/24/03	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2000-008	Handrail Details	Rev 2; Revised after IFC	6/4/03	10/19/03	MCH		NO		Rev 2	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2000-009	Handrail Details	Rev 2; Revised after IFC	6/5/03	10/19/03	MCH		NO		Rev2	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2000-010	Handrail Details	Rev 2; Revised after IFC	6/12/03	4/21/04	MCH		NO		Rev 2	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2000-011	Drain Through Details	Rev 2; Revised after IFC	6/12/03	10/19/03	MCH		NO		Rev 2	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2000-012	Typcial ladder	Rev 0; IFC	9/26/03	10/19/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2000-013	Typcial ladder	Rev 0; IFC	9/26/03	10/19/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2000-014	Typcial ladder	Rev 0; IFC	10/6/03	2/4/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2000-015	Fixed Stair Details	Rev 2; Revised after IFC	12/11/03	2/23/04	MCH		NO		Rev 2	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2000-016	Fixed Stair Details	Rev 1; Revised after IFC	11/21/03	5/10/04	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2000-017	Stair Support Frames	Rev 0; IFC	1/20/04	5/10/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2000-018	Stair Support Frames	Rev 0; IFC	2/16/04	2/23/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-2000-019	Misc Details	Rev 0; IFC	3/23/04		MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2100-001	Comp Module Loading Diagrams	Rev 0; IFC	4/30/03	2/27/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2100-002	Comp Module Loadout/ Tow	Rev 1; Revised after IFC	4/1/03	2/18/04	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2101-001	Comp Module Framing Plan	Rev 3; Revised after IFC	4/1/03	4/21/04	MCH		NO		Rev 3	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2102-001	Comp Module Framing Plan	Rev 3; Revised after IFC	7/30/02	8/26/03	MCH		NO		Rev 3	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2103-001	Comp Module Truss Row	Rev 1; Revised after IFC	8/4/02	8/26/03	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2103-002	Comp Module Truss Row	Rev 2; Revised after IFC	8/4/02	2/27/04	MCH		NO		Rev 2	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2103-003	Comp Module Truss Row	Rev 2; Revised after IFC	8/5/02	8/26/03	MCH		NO		Rev 2	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang

MS8-2: Todd Production Inventory (Book 01)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-20-ST-DG-2103-004	Comp Module Truss Row	Rev 1; Revised after IFC	7/30/02	8/26/03	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2103-005	Comp Module Truss Row	Rev 1; Revised after IFC	7/30/02	8/26/03	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2103-006	Comp Module Truss Row	Rev2; Revised after IFC	7/30/02	8/27/03	MCH		NO		Rev 2	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2103-007	Comp Module Truss Row	Rev2; Revised after IFC	7/30/02	2/27/04	MCH		NO		Rev 2	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2103-008	Comp Module Truss Row	Rev 1; Revised after IFC	7/30/02	8/26/03	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2103-009	Comp Module Truss Row	Rev 1; Revised after IFC	7/30/02	8/26/03	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2103-010	Comp Module Truss Row	Rev 1; Revised after IFC	7/30/02	8/26/03	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG100		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG101		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG102		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG103		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG104		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG105		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG106		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG107		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG108		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG109		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG110		Rev 1; Revised after IFC	6/21/02	6/24/03	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG111		Rev 1; Revised after IFC	6/21/02	6/24/03	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG112		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG113		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG114		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG115		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG116		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang

MS8-2: Todd Production Inventory (Book 01)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-20-ST-DG-2104-PG117		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG118		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG119		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG120		Rev 1; Revised after IFC	6/21/02	6/24/03	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG121		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG122		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG123		Rev 1; Revised after IFC	6/21/02	6/24/03	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG124		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG125		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG126		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG127		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG128		Rev 1; Revised after IFC	6/21/02	6/24/03	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG129		Rev 1; Revised after IFC	6/21/02	6/24/03	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG130		Rev 1; Revised after IFC	6/21/02	6/24/03	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG131		Rev 1; Revised after IFC	6/21/02	6/24/03	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG133		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG134		Rev 1; Revised after IFC	6/21/02	6/24/03	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG135		Rev 1; Revised after IFC	6/21/02	6/24/03	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG136		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG137		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG200		Rev 1; Revised after IFC	6/21/02	4/21/04	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG201		Rev 1; Revised after IFC	6/21/02	4/21/04	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG202		Rev 1; Revised after IFC	6/21/02	4/21/04	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG203		Rev 1; Revised after IFC	6/21/02	4/21/04	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang

MS8-2: Todd Production Inventory (Book 01)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-20-ST-DG-2104-PG204		Rev 1; Revised after IFC	6/21/02	4/21/04	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG205		Rev 1; Revised after IFC	6/21/02	4/21/04	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG206		Rev 1; Revised after IFC	6/21/02	4/21/04	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG207		Rev 1; Revised after IFC	6/21/02	6/24/03	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG208		Rev 1; Revised after IFC	6/21/02	6/24/03	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG209		Rev 1; Revised after IFC	6/21/02	6/24/03	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG210		Rev 1; Revised after IFC	6/21/02	6/24/03	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG211		Rev 1; Revised after IFC	6/21/02	6/24/03	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG212		Rev 1; Revised after IFC	6/21/02	6/24/03	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG213		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG214		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG215		Rev 1; Revised after IFC	6/21/02	4/21/04	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG216		Rev 0; IFC	7/25/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG217		Rev 1; Revised after IFC	6/21/02	6/24/03	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG218		Rev 1; Revised after IFC	6/21/02	6/24/03	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG219		Rev 0; IFC	7/25/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG220		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG221		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG222		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG223		Rev 1; Revised after IFC	6/21/02	6/24/03	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG224		Rev 1; Revised after IFC	6/21/02	6/24/03	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG225		Rev 1; Revised after IFC	6/21/02	6/24/03	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG226		Rev 1; Revised after IFC	6/21/02	6/24/03	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG227		Rev 0; IFC	7/25/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang

MS8-2: Todd Production Inventory (Book 01)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-20-ST-DG-2104-PG228		Rev 2; Revised after IFC	6/21/02	6/24/03	MCH		NO		Rev 2	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG229		Rev 2; Revised after IFC	6/21/02	6/24/03	MCH		NO		Rev 2	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG230		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG231		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG232		Rev 2; Revised after IFC	6/21/02	5/20/03	MCH		NO		Rev 2	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG233		Rev 2; Revised after IFC	6/21/02	5/20/03	MCH		NO		Rev 2	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG234		Rev 3; Revised after IFC	6/21/02	8/26/03	MCH		NO		Rev 3	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG235		Rev 3; Revised after IFC	6/21/02	8/26/03	MCH		NO		Rev 3	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG236		Rev 0; IFC	7/22/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG237		Rev 0; IFC	7/25/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG238		Rev 0; IFC	7/22/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG239		Rev 0; IFC	7/25/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG300		Rev 0; IFC	7/21/02	3/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG301		Rev 0; IFC	7/21/02	3/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG302		Rev 0; IFC	7/21/02	3/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG303		Rev 0; IFC	7/21/02	3/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG304		Rev 1; Revised after IFC	6/21/02	6/24/03	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG305		Rev 1; Revised after IFC	6/21/02	6/24/03	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG306		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG307		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG308		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG309		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG310		Rev 1; Revised after IFC	6/21/02	6/24/03	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG311		Rev 1; Revised after IFC	6/21/02	6/24/03	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang

MS8-2: Todd Production Inventory (Book 01)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-20-ST-DG-2104-PG312		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG313		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG314		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG315		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG316		Rev 1; Revised after IFC	6/21/02	6/24/03	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG317		Rev 1; Revised after IFC	6/21/02	6/24/03	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG318		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG319		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG320		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG321		Rev 1; Revised after IFC	6/21/02	6/24/03	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG322		Rev 1; Revised after IFC	6/21/02	6/24/03	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG323		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG327		Rev 0; IFC	8/11/03	8/26/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG328		Rev 0; IFC	8/11/03	8/26/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2201-001	Framing Plan at Lower Level	Rev 2; Revised after IFC	8/18/03	2/9/04	MCH		NO		Rev 2	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2201-002	Framing Plan at Lower Level	Rev 2; Revised after IFC	8/18/03	4/21/04	MCH		NO		Rev 2	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2201-003	Framing Plan at Lower Level	Rev 1; Revised after IFC	8/18/03	2/21/03	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2201-003	Framing Plan at Lower Level	Rev 1; Revised after IFC	8/18/03	2/21/03	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2202-001	Misc Framing	Rev 1; Revised after IFC	8/8/03	2/21/03	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2202-002	Misc Framing	Rev 2; Revised after IFC	8/18/03	10/23/03	MCH		NO		Rev 2	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2202-003	Misc Framing	Rev 0; IFC	11/10/03	10/23/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2203-001	Equip Support Details	Rev 1; Revised after IFC	9/8/03	9/16/03	MCH		NO		Rev 1	MCH		Topside Compression	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-2203-002	Equip Support Details	Rev 1; Revised after IFC	10/6/03	4/21/04	MCH		NO		Rev 1	MCH		Topside Compression	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-2203-003	Equip Support Details	Rev 2; Revised after IFC	10/7/03	4/21/04	DRR		NO		Rev 2	DRR		Topside Compression	YES	Daniel R. Ramirez TX 46931	Mustang

MS8-2: Todd Production Inventory (Book 01)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-20-ST-DG-2203-004	Equip Support Details	Rev 1; Revised after IFC	11/3/03	5/20/04	DRR		NO		Rev 1	DRR		Topside Compression	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-2204-001	Lower Level Plating	Rev 3; Revised after IFC	6/16/03	2/9/04	MCH		NO		Rev 3	MCH		Topside Compression	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-2204-002	Lower Level Plating	Rev 2; Revised after IFC	6/16/03	4/21/04	DRR		NO		Rev 2	DRR		Topside Compression	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-2204-003	Lower Level Plating	Rev 2; Revised after IFC	6/16/03	4/30/04	DRR		NO		Rev 2	DRR		Topside Compression	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-2204-004	Lower Level Plating	Rev 2; Revised after IFC	6/16/03	4/21/04	DRR		NO		Rev 2	DRR		Topside Compression	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-2205-001	Lower Level Plating	Rev 2; Revised after IFC	9/18/03	4/21/04	DRR		NO		Rev 2	DRR		Topside Compression	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-2205-002	Lower Level Plating	Rev 1; Revised after IFC	9/18/03	10/23/04	DRR		NO		Rev 1	DRR		Topside Compression	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-2205-003	Lower Level Plating	Rev 1; Revised after IFC	10/9/03	4/21/04	DRR		NO		Rev 1	DRR		Topside Compression	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-2206-001	Framing Plan at Upper Level NW	Rev 2; AF/AC	10/7/03	12/6/06			NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2206-002	Framing Plan at Upper Level NE	Rev 2; AF/AC	10/7/03	12/6/06			NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2206-003	Framing Plan at Upper Level SW	Rev 2; AF/AC	10/7/03	12/6/06			NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2206-004	Framing Plan at Upper Level SE	Rev 2; AF/AC	10/7/03	12/6/06			NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2211-001	Misc Outfitting Steel	Rev 1; Revised after IFC	11/20/03		MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2211-002	Misc Outfitting Steel	Rev 1; Revised after IFC	11/20/03		MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2211-003	Misc Outfitting Steel	Rev 1; Revised after IFC	11/20/03		MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2211-004	Misc Outfitting Steel	Rev 1; Revised after IFC	11/20/03		MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2212-001	Misc Outfitting Steel	Rev 1; Revised after IFC	1/16/04	5/20/04	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2212-002	Misc Outfitting Steel	Rev 1; Revised after IFC	1/16/04	5/20/04	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2212-003	Misc Outfitting Steel	Rev 1; Revised after IFC	1/16/04	5/20/04	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2212-004	Misc Outfitting Steel	Rev2; AF/AC	1/16/04	12/6/04			NO		Rev 1			Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2215-001	Lower Leve Hatch Details	Rev 1; Revised after IFC	10/15/03	4/21/04	DRR		NO		Rev 1	DRR		Topside Compression	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-2215-002	Lower Leve Hatch Details	Rev 0; IFC	1/13/04	2/9/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-2222-001	Upper Level Plating	Rev 1; Revised after IFC	9/2/03	5/20/04	MCH		NO		Rev 1	MCH		Topside Compression	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-2221-001	Upper Level Plating	Rev 1; Revised after IFC	9/2/03	5/20/04	MCH		NO		Rev 1	MCH		Topside Compression	YES	Daniel R. Ramirez TX 46931	Mustang

MS8-2: Todd Production Inventory (Book 01)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-20-ST-DG-2223-001	Upper Level Plating	Rev 1; Revised after IFC	9/2/03	5/20/04	MCH		NO		Rev 1	MCH		Topside Compression	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-2224-001	Upper Level Plating	Rev 1; Revised after IFC	9/2/03	5/20/04	MCH		NO		Rev 1	MCH		Topside Compression	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-2225-001	Upper Level Plating	Rev 1; Revised after IFC	11/20/03	5/20/04	MCH		NO		Rev 1	MCH		Topside Compression	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-2226-001	Upper Level Plating	Rev2; AF/AC	12/2/03	12/6/06			NO		Rev 1	MCH		Topside Compression	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-2228-001	Upper Level Plating	Rev 1; Revised after IFC	6/28/03	5/20/04	MCH		NO		Rev 1	MCH		Topside Compression	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-2229-001	Launcher/Receiver Skids	Rev 0; IFC	6/28/03	10/19/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-2230-001	Launcher/Receiver Skids	Rev 0; IFC	6/28/03	10/19/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-2231-001	Primary Steel Lower level	Rev 0; IFC	10/17/03	11/6/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2241-001	Monorail Details	Rev 0; IFC	12/4/03	1/12/04			NO		Rev 0			Topside Compression	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-2242-001	Monorail Details	Rev 0; IFC	12/4/03	1/12/04			NO		Rev 0			Topside Compression	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-2243-001	Monorail Details	Rev 1; AF/AC	10/30/03	12/6/06			NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2244-001	Monorail Details	Rev 0; IFC	4/29/04	5/13/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2251-001	Pipe Cassette	Rev 1; AF/AC	12/12/03	12/6/06			NO		Rev 0	MCH		Topside Compression	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-2252-001	Pipe Cassette	Rev 1; AF/AC	12/14/03	12/6/06			NO		Rev 0	MCH		Topside Compression	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-2253-001	Pipe Cassette	Rev 1; AF/AC	12/16/03	12/6/06			NO		Rev 0	MCH		Topside Compression	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-2254-001	Pipe Cassette	Rev 0; IFC	12/18/03	1/21/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-2255-001	Pipe Cassette	Rev 1; AF/AC	12/22/03	12/6/06			NO		Rev 0	MCH		Topside Compression	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-2256-001	Pipe Cassette	Rev 0; IFC	12/24/03	5/21/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-2257-001	Pipe Cassette	Rev 0; IFC	12/31/03	1/21/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-2258-001	Pipe Cassette	Rev 0; IFC	1/5/04	1/21/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-2261-001	Crane Boom Rest Details	Rev 0; IFC	10/31/03	10/19/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2271-001	Lower Leve Loading Hose Support	Rev 0; IFC	12/19/03	1/12/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	R.D. Zeplin TX 68767	Mustang
1440-20-ST-DG-2271-002	Lower Leve Loading Hose Support	Rev 0; IFC	12/19/03	1/12/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	R.D. Zeplin TX 68767	Mustang
1440-20-ST-DG-2271-003	Lower Leve Loading Hose Support	Rev 1; Revised after IFC	12/24/03	5/13/04	MCH		NO		Rev 1	MCH		Topside Compression	YES	R.D. Zeplin TX 68767	Mustang

MS8-2: Todd Production Inventory (Book 01)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-20-ST-DG-2281-001	Gylcol Contactor Platform	Rev 0; IFC	4/15/04	5/4/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2282-001	Tote Tank Bumper Wall	Rev 2; Revised after IFC	12/9/03	5/28/04	MCH		NO		Rev 2	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2283-001	Tote Tank Tie Down	Rev 0; IFC	5/21/04	5/28/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2285-001	Camera Supports	Rev 0; AF/AC	6/1/06	12/6/06			NO		Rev 0	MCH		Topside Compression	NO		Mustang
1440-20-ST-DG-2351-001	Stair Key Plan	Rev 0; IFC	2/2/04	3/15/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2352-001	Stair Tower	Rev 0; IFC	12/17/03	2/20/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2353-001	Stair Tower	Rev 0; IFC	12/17/03	2/20/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2354-001	Stair Tower	Rev 1; AF/AC	12/17/03	12/6/06			NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2355-001	Stair Tower	Rev 0; IFC	12/23/03	2/20/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2356-001	Stair Tower	Rev 1; Revised after IFC	1/5/04	5/20/04	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2357-001	Stair Tower	Rev 2; AF/AC	1/6/04	12/6/06			NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2360-001	Skid ZZZ-2000/2100	Rev 0; IFC	4/7/04	4/21/04			NO		Rev 0			Topside Compression	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-2366-001	Crane Access Plaform	Rev 0; IFC	10/6/03	2/23/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2366-002	Crane Access Plaform	Rev 0; IFC	10/7/03	2/23/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2367-001	Access Platform	Rev 1; AF/AC	12/19/03	12/6/06			NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2368-001	Access Platform	Rev 0; IFC	1/5/04	2/23/04			NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2370-001	Access Platform	Rev 1; AF/AC	1/20/04	12/6/06			NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2371-001	Manifold Platform	Rev 0; IFC	1/20/04	2/4/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2374-001	Access Platform	Rev 0; IFC	1/27/04	2/23/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-2375-001	Sling Racks	Rev 0; IFC	10/27/06	1/4/07	FJZ		NO					Topside Compression	YES	F. J. Zwerneman TX 83137	Mustang
1440-20-ST-DG-2401-001	MPS-201	Rev 1; Revised after IFC	2/25/04	4/21/04	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2402-001	MPS-202	Rev 0; IFC	3/1/04	3/15/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2403-001	MPS-203	Rev 0; IFC	3/1/04	3/15/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2411-001	MPS Misc Details	Rev 0; IFC	3/8/04	3/15/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2421-001	Lower Flowline Support Structure	Rev 0; IFC	5/10/04	5/26/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	Daniel R. Ramirez TX 46931	Mustang

MS8-2: Todd Production Inventory (Book 01)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-20-ST-DG-2422-001	Upper Flowline Support Structure	Rev 0; IFC	5/10/04	5/26/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-2424-001	East & West Porch	Rev 0; IFC	12/19/03	3/22/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	R.D. Zeplin TX 68767	Mustang
1440-20-ST-DG-2461-001	East & West Porch	Rev 0; IFC	5/10/04	5/27/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	R.D. Zeplin TX 68767	Mustang
1440-20-ST-DG-2462-001	Pipe Support Structure	Rev 0; IFC	5/10/04	5/27/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	R.D. Zeplin TX 68767	Mustang
1440-20-ST-DG-2463-001	Pipe Support Structure	Rev 0; IFC	5/10/04	5/27/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	R.D. Zeplin TX 68767	Mustang
1440-20-ST-DG-2464-001	Pipe Support Structure	Rev 0; IFC	5/10/04	5/27/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	R.D. Zeplin TX 68767	Mustang
1440-20-ST-DG-2464-002	Pipe Support Structure	Rev 0; IFC	5/10/04	5/27/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	R.D. Zeplin TX 68767	Mustang
1440-20-ST-DG-2465-001	Pipe Support Structure	Rev 0; IFC	5/10/04	5/27/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	R.D. Zeplin TX 68767	Mustang
1440-20-ST-DG-2466-001	Pipe Support Structure	Rev 0; IFC	5/10/04	5/27/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	R.D. Zeplin TX 68767	Mustang
1440-20-ST-DG-2467-001	Pipe Support Structure	Rev 0; IFC	5/10/04	5/27/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	R.D. Zeplin TX 68767	Mustang
1440-20-ST-DG-2468-001	Pipe Support Structure	Rev 0; IFC	5/10/04	5/28/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	R.D. Zeplin TX 68767	Mustang
1440-20-ST-DG-2468-002	Pipe Support Structure	Rev 0; IFC	5/10/04	5/28/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	R.D. Zeplin TX 68767	Mustang
1440-20-ST-DG-2469-001	Pipe Support Structure	Rev 0; IFC	5/12/04	5/28/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	R.D. Zeplin TX 68767	Mustang
1440-20-ST-DG-2469-002	Pipe Support Structure	Rev 1; Revised after IFC	5/13/04	7/26/04			NO		Rev 1			Topside Compression	YES	R.D. Zeplin TX 68767	Mustang
1440-20-ST-DG-2469-003	Pipe Support Structure	Rev 1; Revised after IFC	5/13/04	7/26/04			NO		Rev 1			Topside Compression	YES	R.D. Zeplin TX 68767	Mustang
1440-20-ST-DG-2469-004	Pipe Support Structure	Rev 0; IFC	5/14/04	5/28/04			NO		Rev 0			Topside Compression	YES	R.D. Zeplin TX 68767	Mustang
1440-20-ST-DG-2469-005	Pipe Support Structure	Rev 1; Revised after IFC	5/14/04	7/26/04			NO		Rev 1			Topside Compression	YES	R.D. Zeplin TX 68767	Mustang
1440-20-ST-DG-2469-006	Pipe Support Structure	Rev 1; Revised after IFC	5/17/04	7/26/04			NO		Rev 1			Topside Compression	YES	R.D. Zeplin TX 68767	Mustang
1440-20-ST-DG-2469-007	Pipe Support Structure	Rev 0; IFC	5/25/04	5/28/04			NO		Rev 0			Topside Compression	YES	R.D. Zeplin TX 68767	Mustang
1440-20-ST-DG-2470-001	Pipe Support Structure	Rev 0; IFC	5/19/04	5/29/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	R.D. Zeplin TX 68767	Mustang
1440-20-ST-DG-2470-002	Pipe Support Structure	Rev 2; AF/AC	5/19/04	12/6/06			NO		Rev 1	JPG		Topside Compression	YES	R.D. Zeplin TX 68767	Mustang
1440-20-ST-DG-2470-003	Pipe Support Structure	Rev 1; Revised after IFC	5/13/04	7/26/04	JPG		NO		Rev 1	JPG		Topside Compression	YES	R.D. Zeplin TX 68767	Mustang
1440-20-ST-DG-2470-004	Pipe Support Structure	Rev 1; Revised after IFC	5/21/04	7/26/04	JPG		NO		Rev 1	JPG		Topside Compression	YES	R.D. Zeplin TX 68767	Mustang
1440-20-ST-DG-2470-005	Pipe Support Structure	Rev 0; IFC	5/21/04	5/27/04	JPG		NO		Rev 0	JPG		Topside Compression	YES	R.D. Zeplin TX 68767	Mustang

MS8-2: Todd Production Inventory (Book 01)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-20-ST-DG-2470-006	Pipe Support Structure	Rev 0; IFC	5/24/04	5/29/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	R.D. Zeplin TX 68767	Mustang
1440-20-ST-DG-2481-001	Bumpers & Guides location	Rev 0; IFC	1/9/04	4/19/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2482-001	Bumpers & Guides location	Rev 0; IFC	1/9/04	4/19/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2482-002	Bumpers & Guides location	Rev 0; IFC	1/9/04	4/19/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2482-003	Bumpers & Guides location	Rev 0; IFC	1/9/04	4/19/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2483-001	Hang off Bollard	Rev 0; IFC	8/20/04	9/10/04	JPG		NO		Rev 0	JPG		Topside Compression	YES	David F. Grimm TX 93067	Mustang
1440-20-ST-DG-2501-001	Module Column to Hull	Rev 0; IFC	11/3/03	2/20/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2601-002	Comp Module Lifting Arrange	Rev 0; IFC	4/3/03	2/18/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2801-001	Instrument Access	Rev 0; IFC	3/9/04	4/6/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-2802-001	Instrument Access	Rev 0; IFC	3/9/04	4/6/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-2803-001	Instrument Access	Rev 0; IFC	3/31/04	4/28/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-2804-001	Instrument Access	Rev 1; AF/AC	3/22/04	12/6/06			NO		Rev 0	MCH		Topside Compression	YES	Jessie J. Tang TX 87914	Mustang
1440-20-ST-DG-2805-001	Instrument Access	Rev 0; IFC	3/24/04	4/6/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-2806-001	Instrument Access	Rev 0; IFC	3/24/04	4/6/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-2807-001	Instrument Access	Rev 0; IFC	3/18/04	4/28/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-2808-001	Instrument Access	Rev 0; IFC	3/30/04	4/28/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-2809-001	Instrument Access	Rev 0; IFC	5/4/04	5/28/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	Jessie J. Tang TX 87914	Mustang
1440-20-ST-DG-2809-002	Instrument Access	Rev 0; IFC	5/6/04	5/28/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	Jessie J. Tang TX 87914	Mustang
1440-20-ST-DG-2810-001	Instrument Access	Rev 0; IFC	4/20/04	4/28/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-2811-001	Instrument Access	Rev 0; IFC	4/7/04	4/28/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	Jessie J. Tang TX 87914	Mustang
1440-20-ST-DG-2812-001	Instrument Access	Rev 0; IFC	4/15/04	4/28/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	Jessie J. Tang TX 87914	Mustang
1440-20-ST-DG-2813-001	Instrument Access	Rev 0; IFC	4/22/04	4/28/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	Jessie J. Tang TX 87914	Mustang
1440-20-ST-DG-2814-001	Instrument Access	Rev 0; IFC	5/3/04	5/28/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	Jessie J. Tang TX 87914	Mustang
1440-20-ST-DG-2815-001	Instrument Access	Rev 0; IFC	4/26/04	5/28/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	Jessie J. Tang TX 87914	Mustang

MS8-2: Todd Production Inventory (Book 01)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-20-ST-DG-2816-001	Instrument Access	Rev 0; IFC	4/29/04	4/28/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-2816-002	Instrument Access	Rev 0; IFC	5/4/04	5/28/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-1700-002	Flare Boom Typical Weld Connection	Rev 2; As-Built	2/14/04	6/30/07			NO		Rev 1	DFG		Topside Flareboom	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1700-003	Flare Boom Typical Weld	Rev 0; IFC	2/14/04	2/20/04	MCH		NO		Rev 0	MCH		Topside Flareboom	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1710-001	Flare Boom Elevation & Details	Rev 1; Revised after IFC	12/10/03	6/30/04	JPG		NO		Rev 1	JPG		Topside Flareboom	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1710-002	Flare Boom Elevation & Details	Rev 1; Revised after IFC	12/11/03	6/30/04	JPG		NO		Rev 1	JPG		Topside Flareboom	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1710-003	Flare Boom Details	Rev 2; As-Built	12/14/03	6/30/07	JPG		NO		Rev 1	DFG		Topside Flareboom	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1710-004	Flare Boom Details	Rev 0; IFC	12/15/03	2/20/04	MCH		NO		Rev 0	MCH		Topside Flareboom	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1710-005	Flare Boom Details	Rev 0; IFC	12/17/03	2/20/04	MCH		NO		Rev 0	MCH		Topside Flareboom	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1710-006	Flare Boom Details	Rev 0; IFC	12/18/03	2/20/04	MCH		NO		Rev 0	MCH		Topside Flareboom	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1710-007	Flare Boom Details	Rev 0; IFC	1/5/04	2/20/04	MCH		NO		Rev 0	MCH		Topside Flareboom	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1710-008	Flare Boom Details	Rev 0; IFC	1/8/04	2/20/04	MCH		NO		Rev 0	MCH		Topside Flareboom	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1700-009	Flare Boom Details	Rev 2; As-Built	1/7/04	6/30/07			NO		Rev 1	DFG		Topside Flareboom	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1700-010	Flare Boom Details	Rev 3; As-Built	12/12/03	6/30/07			NO		Rev 1	DFG		Topside Flareboom	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1700-011	Flare Boom Details	Rev 0; IFC	1/15/04	2/20/04			NO		Rev 0	DFG		Topside Flareboom	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3000-003	Typical Welded Connection Details	Rev 2; Revised after IFC	2/12/03	6/24/03	MCH		NO		Rev 2	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3000-004	Typical Welded Connection Details	Rev 3; Revised after IFC	2/12/03	9/12/03	MCH		NO		Rev 3	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3000-005	Typical Welded Connection Details	Rev 1; Revised after IFC	2/12/03	4/30/03	MCH		NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3000-006	Typical Welded Connection Details	Rev 2; Revised after IFC	2/12/03	6/24/03	MCH		NO		Rev 2	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3000-007	Typical Welded Connection Details	Rev 1; Revised after IFC	2/12/03	4/30/03	MCH		NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3000-008	Typical Handrail Details	Rev 2; Revised after IFC	6/4/03	6/12/04	MCH		NO		Rev 2	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3000-009	Typical Handrail Details	Rev 2; Revised after IFC	6/5/03	6/12/04	DG		NO		Rev 2	DG		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3000-010	Typical Handrail Details	Rev 1; Revised after IFC	6/12/03	10/30/03	MCH		NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3000-011	Typical drain through Details	Rev 1; Revised after IFC	6/12/03	10/30/03	MCH		NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang

MS8-2: Todd Production Inventory (Book 01)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-20-ST-DG-3000-012	Typical Ladder	Rev 0; IFC	2/25/04	3/22/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3000-013	Typical Ladder	Rev 0; IFC	2/23/04	3/22/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3000-014	Typical Ladder	Rev 0; IFC	2/23/04	3/22/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3000-015	Fixed Stair Details	Rev 3; Revised after IFC	12/11/03	1/27/04	MCH		NO		Rev 3	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3000-016	Fixed Stair Details	Rev 1; Revised after IFC	11/21/03	5/27/04	MCH		NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3000-017	Stair Support Frames	Rev 0; IFC	1/22/04	3/22/04	MCH		NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3000-018	Fire & Gas Detection Supports	Rev 0; IFC	2/23/04	3/22/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-3000-019	Typical Misc Details	Rev 2; Revised after IFC	3/17/04	4/30/04	MCH		NO		Rev 2	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3100-001	Gen Module Loading Diagrams	Rev 0; IFC	4/29/03	2/27/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3100-002	Gen Module Loadout	Rev 1; Revised after IFC	3/18/03	2/18/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3101-001	Gen Module Framing Plan	Rev 3; AF/AC	7/19/02	12/6/06			NO		Rev 2	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3102-001	Gen Module Framing Plan	Rev 2; Revised after IFC	7/29/02	9/12/03	MCH		NO		Rev 2	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3103-001	Gen Module Truss Row	Rev 1; Revised after IFC	7/30/02	9/12/03	MCH		NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3103-002	Gen Module Truss Row	Rev 1; Revised after IFC	7/30/02	9/12/03	MCH		NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3103-003	Gen Module Truss Row	Rev 3; Revised after IFC	7/30/02	5/2/06			NO		Rev 1	MCH		Topside Generation	YES	P. A. Skrobarczyk TX 79336	Mustang
1440-20-ST-DG-3103-004	Gen Module Truss Row	Rev 1; Revised after IFC	7/29/02	9/12/03	MCH		NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3103-005	Gen Module Truss Row	Rev 2; Revised after IFC	7/29/02	5/27/04	MCH		NO		Rev 2	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3103-006	Gen Module Truss Row	Rev 1; Revised after IFC	7/30/02	9/12/03	MCH		NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3103-007	Gen Module Truss Row	Rev 1; Revised after IFC	7/30/02	9/12/03	MCH		NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3103-008	Gen Module Truss Row	Rev 1; Revised after IFC	7/30/02	9/12/03	MCH		NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG100		Rev 1; Revised after IFC	6/20/02	6/24/03	MCH		NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG102		Rev 0; IFC	6/20/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG103		Rev 0; IFC	6/20/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG104		Rev 0; IFC	6/20/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang

MS8-2: Todd Production Inventory (Book 01)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-20-ST-DG-3104-PG105		Rev 0; IFC	6/20/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG106		Rev 0; IFC	6/20/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG107		Rev 0; IFC	6/20/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG108		Rev 0; IFC	6/20/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG109		Rev 0; IFC	6/20/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG110		Rev 0; IFC	6/20/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG111		Rev 0; IFC	6/20/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG112		Rev 0; IFC	6/20/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG113		Rev 1; Revised after IFC	6/20/02	6/24/03	MCH		NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG114		Rev 0; IFC	6/20/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG115		Rev 0; IFC	6/20/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG116		Rev 0; IFC	6/20/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG117		Rev 1; Revised after IFC	6/20/02	6/24/03	MCH		NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG118		Rev 0; IFC	6/20/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG119		Rev 0; IFC	6/20/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG120		Rev 0; IFC	6/20/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG121		Rev 0; IFC	6/20/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG122		Rev 0; IFC	6/20/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG123		Rev 0; IFC	6/20/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG124		Rev 0; IFC	6/20/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG125		Rev 1; Revised after IFC	6/21/02	5/20/03	MCH		NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG126		Rev 2; Revised after IFC	6/21/02	5/20/03	MCH		NO		Rev 2	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG130		Rev 0; IFC	7/24/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG131		Rev 0; IFC	7/24/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang

MS8-2: Todd Production Inventory (Book 01)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-20-ST-DG-3104-PG132		Rev 0; IFC	6/20/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG200		Rev 1; Revised after IFC	6/20/02	6/24/03	MCH		NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG201		Rev 0; IFC	6/20/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG202		Rev 0; IFC	6/20/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG203		Rev 0; IFC	6/20/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG204		Rev 0; IFC	6/20/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG205		Rev 0; IFC	6/20/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG206		Rev 0; IFC	6/20/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG207		Rev 1; Revised after IFC	6/20/02	6/24/03	MCH		NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG208		Rev 0; IFC	6/20/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG209		Rev 1; Revised after IFC	6/22/02	6/24/03	MCH		NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG210		Rev 0; IFC	6/20/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG211		Rev 0; IFC	6/20/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG212		Rev 0; IFC	6/20/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG213		Rev 0; IFC	6/20/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG214		Rev 0; IFC	6/20/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG215		Rev 0; IFC	6/20/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG216		Rev 0; IFC	6/20/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG217		Rev 0; IFC	6/20/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG218		Rev 1; Revised after IFC	6/21/02	5/20/03	MCH		NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG219		Rev 2; Revised after IFC	6/21/02	5/20/03	MCH		NO		Rev 2	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG220		Rev 0; IFC	7/25/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG221		Rev 0; IFC	7/25/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG222		Rev 0; IFC	8/28/03	9/10/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang

MS8-2: Todd Production Inventory (Book 01)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-20-ST-DG-3104-PG223		Rev 0; IFC	8/28/03	9/12/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG224		Rev 0; IFC	8/28/03	9/12/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG300		Rev 2; Revised after IFC	7/15/02	9/12/03	MCH		NO		Rev 2	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG301		Rev 2; Revised after IFC	7/15/02	9/12/03	MCH		NO		Rev 2	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG302		Rev 1; Revised after IFC	7/15/02	9/12/03	MCH		NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG303		Rev 2; Revised after IFC	7/15/02	9/12/03	MCH		NO		Rev 2	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG304		Rev 2; Revised after IFC	7/15/02	9/12/03	MCH		NO		Rev 2	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG305		Rev 2; Revised after IFC	7/15/02	9/12/03	MCH		NO		Rev 2	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG306		Rev 2; Revised after IFC	7/15/02	9/12/03	MCH		NO		Rev 2	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG307		Rev 0; IFC	8/20/03	9/12/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG308		Rev 0; IFC	8/28/03	9/12/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3105-001	Gen Module Primary Steel	Rev 1; Revised after IFC	3/22/06	5/2/04	NP		NO		Rev 1	NP		Topside Generation	YES	P. A. Skrobarczyk TX 79336	Mustang
1440-20-ST-DG-3201-001	Framing Plan at Lower Level	Rev 2; Revised after IFC	9/3/03	5/2/04	MCH		NO		Rev 2	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3201-002	Framing Plan at Lower Level	Rev 1; Revised after IFC	9/3/03	4/28/04	MCH		NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3201-003	Framing Plan at Lower Level	Rev 1; Revised after IFC	9/3/03	8/25/06			NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3201-004	Framing Plan at Lower Level	Rev 2; Revised after IFC	9/3/03	8/25/06	MW		NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3202-001	Misc Framing	Rev 3; Revised after IFC	9/14/03	8/29/06	MW		NO		Rev 2	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3202-002	Misc Framing	Rev 2; Revised after IFC	9/14/03	4/23/04	MCH		NO		Rev 2	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3202-003	Misc Framing	Rev 1; Revised after IFC	12/7/03	5/27/04	MCH		NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3203-001	Equip Support Details	Rev 1; Revised after IFC	9/15/03	1/12/04	DG		NO		Rev 1	DG		Topside Generation	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-3203-002	Equip Support Details	Rev 3; AF/AC	9/15/03	12/6/06			NO		Rev 2	MCH		Topside Generation	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-3203-003	Equip Support Details	Rev 2; Revised after IFC	9/15/03	4/23/04	MCH		NO		Rev 2	MCH		Topside Generation	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-3203-004	Equip Support Details	Rev 2; Revised after IFC	9/7/03	5/27/04	MCH		NO		Rev 2	MCH		Topside Generation	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-3204-001	Lower Level Plating	Rev 2; Revised after IFC	6/12/03	5/20/04	MCH		NO		Rev 2	MCH		Topside Generation	YES	Daniel R. Ramirez TX 46931	Mustang

MS8-2: Todd Production Inventory (Book 01)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-20-ST-DG-3204-002	Lower Level Plating	Rev 1; Revised after IFC	6/12/03	4/28/04	MCH		NO		Rev 2	MCH		Topside Generation	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-3204-003	Lower Level Plating	Rev 3; As-Built	6/12/03	12/6/06			NO		Rev 2	MCH		Topside Generation	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-3204-004	Lower Level Plating	Rev 2; Revised after IFC	6/12/03	8/25/06			NO		Rev 1	MCH		Topside Generation	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-3205-001	Lower Level Plating	Rev 2; AF/AC	10/8/03	12/6/06			NO		Rev 1	MCH		Topside Generation	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-3205-002	Lower Level Plating	Rev 1; Revised after IFC	10/8/03	4/28/04	MCH		NO		Rev 1	MCH		Topside Generation	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-3205-003	Lower Level Plating	Rev 1; Revised after IFC	10/15/03	4/28/04	MCH		NO		Rev 1	MCH		Topside Generation	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-3206-001	Framing Plan at Upper Level NW	Rev 2; AF/AC	11/10/03	12/6/06			NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3206-002	Framing Plan at Upper Level NE	Rev 2; AF/AC	11/10/03	12/6/06			NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3206-003	Framing Plan at Upper Level SW	Rev 2; AF/AC	11/10/03	12/6/06			NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3206-004	Framing Plan at Upper Level SE	Rev 2; AF/AC	11/10/03	12/6/06			NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3211-001	Misc Outfitting Steel	Rev 2; AF/AC	11/5/03	12/6/06			NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3211-002	Misc Outfitting Steel	Rev 2; AF/AC	11/5/03	12/6/06			NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3211-003	Misc Outfitting Steel	Rev 1; Revised after IFC	11/5/03	4/29/04	MCH		NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3211-004	Misc Outfitting Steel	Rev 1; Revised after IFC	11/5/03	4/29/04	MCH		NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3212-001	Misc Outfitting Steel	Rev 2; AF/AC	1/16/04	12/6/06			NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3212-002	Misc Outfitting Steel	Rev 1; Revised after IFC	1/16/04	5/27/04	MCH		NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3212-003	Misc Outfitting Steel	Rev 1; Revised after IFC	1/16/04	5/27/04	MCH		NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3212-004	Misc Outfitting Steel	Rev 2; AF/AC	1/16/04	12/6/06			NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3215-001	Misc Outfitting Steel	Rev 0; IFC	1/9/04	1/12/04	DG		NO		Rev 0	DG		Topside Generation	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-3221-001	Upper Level Plating	Rev 1; Revised after IFC	9/2/03	5/22/04	MCH		NO		Rev 1	MCH		Topside Generation	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-3222-001	Upper Level Plating	Rev 1; Revised after IFC	9/2/03	5/22/04	MCH		NO		Rev 1	MCH		Topside Generation	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-3223-001	Upper Level Plating	Rev 2; Revised after IFC	9/2/03	5/7/08			NO		Rev 1	MCH		Topside Generation	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-3224-001	Upper Level Plating	Rev 2; Revised after IFC	9/2/03	5/27/04	MCH		NO		Rev 1	MCH		Topside Generation	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-3225-001	Upper Level Plating	Rev 0; IFC	12/19/03	1/12/04	DG		NO		Rev 0	DG		Topside Generation	YES	Daniel R. Ramirez TX 46931	Mustang

MS8-2: Todd Production Inventory (Book 01)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-20-ST-DG-3226-001	Upper Level Plating	Rev 0; IFC	1/7/04	1/12/04	DG		NO		Rev 0	DG		Topside Generation	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-3231-001	Upper Level Plating	Rev 0; IFC	10/10/03	11/6/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3250-001	Piperack 1 Iso	Rev 0; IFC	2/17/04	2/27/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3250-002	Piperack 2 Iso	Rev 0; IFC	2/17/04	2/27/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3250-003	Piperack 3 Iso	Rev 0; IFC	2/17/04	2/27/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3251-001	Piperack 1 Plans	Rev 2; AF/AC	2/10/04	12/6/06			NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3251-002	Piperack 1 Plans	Rev 2; AF/AC	2/10/04	12/6/06			NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3251-003	Piperack 1 Plans	Rev 1; Revised after IFC	2/10/04	5/27/04	MCH		NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3251-004	Piperack 1 Plans	Rev 0; IFC	2/10/04	2/27/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3251-005	Piperack 1 Plans	Rev 1; Revised after IFC	2/10/04	5/27/04	MCH		NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3251-006	Piperack 1 Plans	Rev 1; Revised after IFC	2/10/04	5/27/04	MCH		NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3251-007	Piperack 1 Plans	Rev 0; IFC	2/10/04	2/27/04	MCH		NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3251-008	Piperack 1 Plans	Rev 0; IFC	2/10/04	2/27/04	MCH		NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3252-001	Piperack 2 Plans	Rev 1; AF/AC	2/4/04	12/6/06			NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3252-002	Piperack 2 Plans	Rev 1; Revised after IFC	2/4/04				NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3252-003	Piperack 2 Plans	Rev 1; Revised after IFC	2/4/04	5/27/04	MCH		NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3252-004	Piperack 2 Plans	Rev 0; IFC	2/4/04	2/27/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3252-005	Piperack 2 Plans	Rev 0; IFC	2/4/04	2/27/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3252-006	Piperack 2 Plans	Rev 1; Revised after IFC	2/10/04	5/27/04	MCH		NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3252-007	Piperack 2 Plans	Rev 1; Revised after IFC	2/10/04	6/29/04			NO		Rev 1			Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3252-008	Piperack 2 Plans	Rev 0; IFC	2/10/04	2/27/04	MCH		NO		Rev0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang

MS8-3 (Amended) Todd Production Inventory (Book 02)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-20-ST-DG-3253-001	Piperack 3 Plans	Rev 2; AF/AC	2/12/04	12/6/06			NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3253-002	Piperack 3 Plans	Rev 1; Revised after IFC	2/13/04	5/27/04	MCH		NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3253-003	Piperack 3 Plans	Rev 0; IFC	2/13/04	2/27/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3253-004	Piperack 3 Plans	Rev 1; Revised after IFC	2/13/04	5/27/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3253-005	Piperack 3 Plans	Rev 1; Revised after IFC	2/13/04	5/27/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3253-006	Piperack 3 Plans	Rev 2; AF/AC	2/14/04	12/6/06			NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3253-007	Piperack 3 Plans	Rev 0; IFC	2/10/04	2/27/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3254-001	DZZ 8515 Second Floor Platform	Rev 0; IFC	5/11/04	5/28/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3261-001	Crane Boom Rest Details	Rev 1; Revised after IFC	12/22/03	5/27/04	MCH		NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3262-001	Crane Boom Rest Details	Rev 1; Revised after IFC	12/29/03	5/27/04	MCH		NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3271-001	MPS-301	Rev 1; Revised after IFC	4/22/04	8/18/06			NO		Rev 0	MCH		Topside Generation	YES	P.A. Skrobarczyk TX 79336	Mustang
1440-20-ST-DG-3272-001	MPS Misc Details	Rev 0; IFC	3/8/04	5/4/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3284-001	Crane Pedestal Diesel storage	Rev 0; IFC	10/16/03	12/19/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3285-001	Camera Supports	Rev 0; AF/AC		12/6/06			NO					Topside Generation	NO		Mustang
1440-20-ST-DG-3351-001	Stair Key Plan	Rev 0; IFC	2/3/04	3/15/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3352-001	Stair Tower	Rev 1; Revised after IFC	1/13/04	5/27/04	MCH		NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3353-001	Stair Tower	Rev 0; IFC	1/14/04	5/27/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3354-001	Stair Tower	Rev 0; IFC	1/14/04	3/15/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3355-001	Stair Tower	Rev 1; Revised after IFC	1/15/04	8/25/06	MW		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3356-001	Stair Tower	Rev 1; Revised after IFC	1/15/04	8/25/06	MW		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3357-001	Stair Tower	Rev 0; IFC	1/22/04	3/15/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3366-001	Access Platform	Rev 0; IFC	2/9/04	3/22/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3367-001	Access Platform	Rev 0; IFC	2/9/04	3/22/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3368-001	Access Platform	Rev 1; AF/AC	2/10/04	12/6/06			NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3369-001	Access Platform	Rev 0; IFC	2/12/04	3/22/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3371-001	Access Platform	Rev 0; IFC	2/26/04	3/22/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3372-001	Access Platform	Rev 0; IFC	2/18/04	3/22/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang

MS8-3 (Amended) Todd Production Inventory (Book 02)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-20-ST-DG-3373-001	Access Platform	Rev 0; IFC	2/18/04	3/22/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3374-001	Access Platform	Rev 0; IFC	2/26/04	3/22/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3376-001	Access Platform	Rev 0; IFC	2/19/04	3/22/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3376-002	Access Platform	Rev 1; AF/AC	2/16/04	12/6/06	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3376-003	Access Platform	Rev 0; IFC	2/16/04	3/22/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3376-004	Access Platform	Rev 0; IFC	1/30/09	5/18/09			NO					Topside Generation	YES	Joseph L. Wietzel TX 73644	Mustang
1440-20-ST-DG-3376-005	Access Platform	Rev 0; IFC	1/30/09	5/18/09			NO					Topside Generation	YES	Joseph L. Wietzel TX 73644	Mustang
1440-20-ST-DG-3376-006	Access Platform	Rev 0; IFC	1/30/09	5/18/09			NO					Topside Generation	YES	Joseph L. Wietzel TX 73644	Mustang
1440-20-ST-DG-3377-001	Injection Platform	Rev 0; IFC	1/15/04	2/23/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3378-001	Crane Access Platform	Rev 0; IFC	2/11/04	3/22/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3378-002	Crane Access Platform	Rev 0; IFC	2/26/04	3/22/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3378-003	Crane Access Platform	Rev 0; IFC	2/26/04	3/22/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3379-001	Diesel Storage Access Platform	Rev 0; IFC	3/4/04	3/22/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3401-001	Generator Access	Rev 0; IFC	3/19/04	5/4/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3402-001	Access Platform	Rev 0; IFC	2/6/04	4/29/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3402-002	Access Platform	Rev 0; IFC	2/9/04	4/29/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3402-003	Access Platform	Rev 0; IFC	2/10/04	4/30/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3402-004	Access Platform	Rev 0; IFC	2/16/04	4/30/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3403-001	Access Platform	Rev 0; IFC	2/18/04	4/30/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3403-002	Access Platform	Rev 0; IFC	2/20/04	4/30/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3403-003	Access Platform	Rev 0; IFC	2/20/04	4/30/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3403-004	Access Platform	Rev 0; IFC	2/25/04	4/30/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3404-001	Access Platform	Rev 0; IFC	2/26/04	4/30/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3404-002	Access Platform	Rev 0; IFC	2/27/04	4/30/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3404-003	Access Platform	Rev 0; IFC	3/1/04	4/30/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3404-004	Access Platform	Rev 0; IFC	3/2/04	4/30/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3405-001	WHRU Support	Rev 1; AF/AC	3/1/04	12/6/06			NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang

MS8-3 (Amended) Todd Production Inventory (Book 02)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-20-ST-DG-3405-002	WHRU Support	Rev 1; AF/AC	3/1/04	12/6/06			NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3405-003	WHRU Support	Rev 1; AF/AC	3/1/04	12/6/06			NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3405-004	WHRU Support	Rev 0; IFC	3/1/04	5/4/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3405-005	WHRU Support	Rev 0; IFC	3/1/04	5/4/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3405-006	WHRU Support	Rev 0; IFC	3/1/04	5/4/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3405-007	WHRU Support	Rev 0; IFC	3/1/04	5/4/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3406-001	Access Platform	Rev 0; IFC	3/1/04	5/4/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3407-001	Access Platform	Rev 0; IFC	3/1/04	5/4/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3421-001	Gen Inlet Air Filter Support	Rev 0; IFC	2/20/04	4/15/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3421-002	Gen Inlet Air Filter Support	Rev 0; IFC	2/20/04	4/15/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3421-003	Gen Inlet Air Filter Support	Rev 0; IFC	2/20/04	4/15/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3422-001	Access Platform	Rev 1; AF/AC	3/18/04	12/6/06			NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3423-001	Access Platform	Rev 1; AF/AC	3/22/04	12/6/06			NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3424-001	Access Platform	Rev 1; AF/AC	3/22/04	12/6/06			NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3425-001	Access Platform	Rev 1; AF/AC	3/24/04	12/6/06			NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3432-001	Access Platform	Rev 0; IFC	4/1/04	4/15/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3433-001	Access Platform	Rev 0; IFC	3/30/04	4/15/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3434-001	Access Platform	Rev 0; IFC	3/26/04	4/15/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3480-001	Gen/Prod/Comp Installation	Rev 0; IFC	1/9/04	4/19/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3480-002	Gen/Prod/Comp Installation	Rev 0; IFC	1/9/04	4/19/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3480-003	Gen/Prod/Comp Modules	Rev 0; IFC	1/9/04	4/19/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3480-004	Gen/Prod/Comp Modules	Rev 0; IFC	1/9/04	4/19/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3480-005	Gen/Prod/Comp Modules	Rev 0; IFC	1/14/04	4/19/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3481-001	Bumpers & Guides	Rev 0; IFC	1/9/04	4/19/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3482-001	Bumpers & Guides Details	Rev 0; IFC	1/9/04	4/19/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3482-002	Bumpers & Guides Details	Rev 1; AF/AC	1/9/04	12/6/06			NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3482-003	Bumpers & Guides Details	Rev 0; IFC	1/9/04	4/19/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang

MS8-3 (Amended) Todd Production Inventory (Book 02)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-20-ST-DG-3482-004	Bumpers & Guides Details	Rev 0; IFC	1/9/04	4/19/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3483-001	Hang-off Bollard Details	Rev 0; IFC	8/20/04	9/10/04	DG		NO		Rev 0	DG		Topside Generation	YES	David F. Grimm TX 93067	Mustang
1440-20-ST-DG-3501-001	Module Column to Hull Details	Rev 0; IFC	11/30/03	2/20/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3601-002	Generation Module Lifting	Rev 0; IFC	4/30/03	2/18/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3801-001	Instrument Access Platform	Rev 0; IFC	5/3/04	5/28/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Jesse J. Tang TX 87914	Mustang
1440-20-ST-DG-3802-001	Instrument Access Platform	Rev 1; AF/AC	5/4/04	12/6/06			NO		Rev 0	MCH		Topside Generation	YES	Jesse J. Tang TX 87914	Mustang
1440-20-ST-DG-3803-001	Instrument Access Platform	Rev 0; IFC	5/5/04	5/28/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Jesse J. Tang TX 87914	Mustang
1440-20-ST-DG-3804-001	Instrument Access Platform	Rev 0; IFC	5/13/04	5/28/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Jesse J. Tang TX 87914	Mustang
1440-20-ST-DG-3804-002	Instrument Access Platform	Rev 0; IFC	5/10/04	5/28/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Jesse J. Tang TX 87914	Mustang
1440-20-ST-DG-3901-001	Instrument Access Platform	Rev 2; Revised after IFC	3/5/06	8/18/06			NO					Topside Generation	YES	P.A. Skrobarczyk TX 79336	Mustang
1440-20-ST-DG-3901-002	ALQ Support Structure	Rev 0; IFC	3/5/06	5/15/06			NO					Topside Generation	YES	P.A. Skrobarczyk TX 79336	Mustang
1440-20-ST-DG-3901-003	ALQ Support Structure	Rev 1; Revised after IFC	3/5/06	5/18/06			NO					Topside Generation	YES	P.A. Skrobarczyk TX 79336	Mustang
1440-20-ST-DG-3901-004	ALQ Support Structure	Rev 0; IFC	3/5/06	5/18/06			NO					Topside Generation	YES	P.A. Skrobarczyk TX 79336	Mustang
1440-20-ST-DG-3902-001	Sump Tank Access Platform	Rev 1; Revised after IFC	5/5/06	6/7/06			NO					Topside Generation	YES	P.A. Skrobarczyk TX 79336	Mustang
1440-20-ST-DG-3902-002	Sump Tank Access Platform	Rev 0; IFC	3/5/06	5/15/06			NO					Topside Generation	YES	P.A. Skrobarczyk TX 79336	Mustang
1440-20-ST-DG-3902-003	Sump Tank Access Platform	Rev 0; IFC	3/5/06	5/15/06			NO					Topside Generation	YES	P.A. Skrobarczyk TX 79336	Mustang
1440-20-ST-DG-3902-004	Sump Tank Access Platform	Rev 1; Revised after IFC	3/5/06	6/7/06			NO					Topside Generation	YES	P.A. Skrobarczyk TX 79336	Mustang
1440-20-ST-DG-3902-005	Sump Tank Access Platform	Rev 0; IFC	3/5/06	5/15/06			NO					Topside Generation	YES	P.A. Skrobarczyk TX 79336	Mustang
1440-20-ST-DG-3902-006	Sump Tank Access Platform	Rev 0; IFC	5/12/06	5/18/06			NO					Topside Generation	YES	P.A. Skrobarczyk TX 79336	Mustang
1440-20-ST-DG-3903-001	Camera Supports	Rev 0; IFC	7/27/06	8/18/06	IKG		NO					Topside Generation	YES	Ian Karl Glascow TX 92878	Mustang
1440-20-ST-DG-3904-001	Camera Supports	Rev 0; IFC	8/11/06	8/25/06	MW		NO					Topside Generation	YES	Ian Karl Glascow TX 92878	Mustang
1440-20-ST-DG-3904-002	ALQ Screened Walkway	Rev 1; Revised after IFC	8/11/06	9/8/06	MW		NO					Topside Generation	YES	Ian Karl Glascow TX 92878	Mustang
1440-20-ST-DG-3904-003	ALQ Screened Walkway	Rev 1; Revised after IFC	8/11/06	9/8/06	MW		NO					Topside Generation	YES	Ian Karl Glascow TX 92878	Mustang
1440-20-ST-DG-3904-004	ALQ Screened Walkway	Rev 2; Revised after IFC	8/11/06	9/8/06	MW		NO					Topside Generation	YES	Ian Karl Glascow TX 92878	Mustang
1440-20-ST-DG-3904-005	ALQ Screened Walkway	Rev 1; Revised after IFC	8/11/06	9/6/06	MW		NO					Topside Generation	YES	Ian Karl Glascow TX 92878	Mustang
1440-20-ST-DG-3904-006	ALQ Screened Walkway	Rev 0; IFC	8/11/06	8/25/06	MW		NO					Topside Generation	YES	Ian Karl Glascow TX 92878	Mustang
1440-20-ST-DG-3905-001	ALQ Module No. 3	Rev 0; IFC	8/18/06	8/31/06	MW		NO					Topside Generation	YES	P.A. Skrobarczyk TX 79336	Mustang

MS8-3 (Amended) Todd Production Inventory (Book 02)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-20-ST-DG-3905-002	ALQ Module No. 5	Rev 0; IFC	8/18/06	8/31/06	MW		NO					Topside Generation	YES	P.A. Skrobarczyk TX 79336	Mustang
1440-20-ST-DG-3906-001	ALQ Generation Module	Rev A; IFI	7/14/06	8/23/06			NO					Topside Generation			Mustang
1440-20-ST-DG-3906-002	ALQ Elevation	Rev A; IFI	7/14/06	8/23/06			NO					Topside Generation			Mustang
1440-20-ST-DG-3907-001	Push Point Removal Guide	Rev 1; Revised after IFC	10/25/06	11/3/06	FJZ		NO					Topside Generation	YES	Farrel Zwerneman TX 83137	Mustang
1440-20-ST-DG-3908-001	TARP Support Details	Rev 1; Revised after IFC	3/12/09	4/23/09	JLW		NO					Topside Generation	YES	Joseph L. Wietzel TX 73644	Mustang
1440-20-ST-DG-3908-002	TARP Support Details	Rev 1; Revised after IFC	3/12/09	4/23/09	JLW		NO					Topside Generation	YES	Joseph L. Wietzel TX 73644	Mustang
1440-20-ST-DG-1000-003	Typical Weld Connection	Rev 2; Revised after IFC	2/12/03	6/24/03	MCH		NO		Rev 2	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1000-004	Typical Weld Connection	Rev 5; Revised after IFC	2/12/03	11/17/03	MCH		NO		Rev 5	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1000-005	Typical Weld Connection	Rev 1; Revised after IFC	2/12/03	4/30/03	MCH		NO		Rev 1	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1000-006	Typical Weld Connection	Rev 2; Revised after IFC	2/12/03	6/24/03	MCH		NO		Rev 1	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1000-007	Typical Weld Connection	Rev 1; Revised after IFC	2/12/03	4/30/03	MCH		NO		Rev 1	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1000-008	Typical Handrail Details	Rev 3; Revised after IFC	6/4/03	2/4/04	MCH		NO		Rev 3	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1000-009	Typical Handrail Details	Rev 2; Revised after IFC	6/5/03	11/9/03	DRR		NO		Rev 2	DRR		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1000-010	Typical Drain Trough Details	Rev 0; IFC	6/12/03	8/5/03	MCH		NO		Rev 0	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1000-011	Typical Drain Trough Details	Rev 2; Revised after IFC	6/12/03	3/1/04	MCH		NO		Rev 2	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1000-012	Typical Drain Trough Details	Rev 0; IFC	9/26/03	2/4/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1000-013	Typical Ladder Details	Rev 0; IFC	9/26/03	2/4/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1000-014	Typical ladder Details	Rev 0; IFC	10/6/03	2/4/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1000-015	Fixed Stair Details	Rev 4; AF/AC	12/11/03	12/6/06			NO		Rev 3	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1000-016	Fixed Stair Details	Rev 2; Revised after IFC	11/21/03	5/15/04	DRR		NO		Rev 2	DRR		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1000-017	Stair Support Frames	Rev 0; IFC	1/22/04	3/22/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1000-018	Fire & Gas Det Supports	Rev 0; IFC	2/16/04	2/23/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1000-019	Typical Misc Details	Rev 0; IFC	3/23/04	4/8/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1000-020	Production Module Index	Rev 0; IFC	8/25/08	7/16/09	MCH		NO					Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1100-001	Production Module Loading	Rev 0; IFC	4/29/03	2/27/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1100-002	Production Module Loadout	Rev 1; Revised after IFC	3/31/03	2/18/04	MCH		NO		Rev 1	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1101-001	Production Module Framing	Rev 6; AF/AC	8/7/02				NO		Rev 4	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang

MS8-3 (Amended) Todd Production Inventory (Book 02)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-20-ST-DG-1102-001	Production Module Framing	Rev 4; Revised after IFC	8/7/02	6/1/05	JWF		NO		Rev 3	DRR		Topside Production	YES	P.A. Skrobarczyk TX 79336	Mustang
1440-20-ST-DG-1103-001	Production Module Truss	Rev 5; AF/AC	8/7/02	12/6/06			NO		Rev 3	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1103-002	Production Module Truss	Rev 2; Revised after IFC	8/7/02	11/25/03	MCH		NO		Rev 2	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1103-003	Production Module Truss	Rev 4; AF/AC	8/7/02	12/6/06			NO		Rev 3	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1103-004	Production Module Truss	Rev 2; Revised after IFC	8/6/02	8/22/03	MCH		NO		Rev 2	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1103-005	Production Module Truss	Rev 2; Revised after IFC	8/6/02	8/22/03	MCH		NO		Rev 2	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1103-006	Production Module Truss	Rev 2; Revised after IFC	8/6/02	11/25/03	MCH		NO		Rev 2	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1103-007	Production Module Truss	Rev 3; Revised after IFC	8/6/02	11/18/05	JWF		NO		Rev 2	MCH		Topside Production	YES	P.A. Skrobarczyk TX 79336	Mustang
1440-20-ST-DG-1103-008	Production Module Truss	Rev 3; Revised after IFC	8/6/02	11/18/05	JWF		NO		Rev 2	MCH		Topside Production	YES	P.A. Skrobarczyk TX 79336	Mustang
1440-20-ST-DG-1103-009	Production Module Truss	Rev 3; Revised after IFC	8/6/02	11/25/05	MCH		NO		Rev 2	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1103-010	Production Module Truss	Rev 2; Revised after IFC	8/6/02	11/25/03	MCH		NO		Rev 2	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1103-011	Production Module Truss	Rev 2; AF/AC	10/16/02	12/6/06			NO		Rev 1	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG100		Rev 0; IFC	6/21/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG101		Rev 0; IFC	6/21/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG102		Rev 0; IFC	6/21/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG103		Rev 0; IFC	6/21/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG104		Rev 0; IFC	6/21/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG105		Rev 0; IFC	6/21/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG106		Rev 0; IFC	6/21/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG107		Rev 0; IFC	6/21/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG108		Rev 0; IFC	6/21/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG109		Rev 0; IFC	6/21/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG110		Rev 0; IFC	6/21/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG111		Rev 0; IFC	6/21/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG112		Rev 0; IFC	6/21/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG113		Rev 0; IFC	6/21/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG114		Rev 0; IFC	6/21/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang

MS8-3 (Amended) Todd Production Inventory (Book 02)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-20-ST-DG-1104-PG115		Rev 1; Revised after IFC	6/21/02	6/24/03	MCH		NO		Rev 1	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG116		Rev 1; Revised after IFC	6/21/02	6/24/03	MCH		NO		Rev 1	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG117		Rev 0; IFC	6/21/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG118		Rev 0; IFC	6/21/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG119		Rev 0; IFC	6/21/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG120		Rev 0; IFC	6/21/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG121		Rev 0; IFC	6/21/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG122		Rev 0; IFC	6/21/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG123		Rev 0; IFC	6/21/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG124		Rev 0; IFC	6/21/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG125		Rev 3; Revised after IFC	6/21/02	8/22/03	MCH		NO		Rev 3	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG126		Rev 0; IFC	6/21/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG127		Rev 2; Revised after IFC	6/21/02	5/20/03	MCH		NO		Rev 2	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG128		Rev 0; IFC	7/23/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG130		Rev 0; IFC	7/23/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG200		Rev 1; Revised after IFC	6/20/02	4/30/03	MCH		NO		Rev 1	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG201		Rev 0; IFC	6/20/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG202		Rev 0; IFC	6/20/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG203		Rev 0; IFC	6/20/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG204		Rev 2; Revised after IFC	6/20/02	8/22/03	MCH		NO		Rev 2	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG205		Rev 0; IFC	6/20/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG206		Rev 1; Revised after IFC	6/20/02	3/30/03	MCH		NO		Rev 1	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG207		Rev 0; IFC	6/20/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG208		Rev 1; Revised after IFC	6/20/02	3/30/03	MCH		NO		Rev 1	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG209		Rev 0; IFC	6/20/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG210		Rev 0; IFC	6/20/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG211		Rev 0; IFC	6/20/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang

MS8-3 (Amended) Todd Production Inventory (Book 02)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-20-ST-DG-1104-PG212		Rev 0; IFC	6/21/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG213		Rev 1; Revised after IFC	6/21/02	8/22/03	MCH		NO		Rev 1	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG214		Rev 0; IFC	6/21/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG215		Rev 1; Revised after IFC	6/21/02	8/22/03	MCH		NO		Rev 1	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG217		Rev 0; IFC	6/21/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG218		Rev 0; IFC	6/21/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG219		Rev 0; IFC	6/21/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG220		Rev 0; IFC	6/21/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG221		Rev 1; Revised after IFC	6/21/02	8/22/03	MCH		NO		Rev 1	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG222		Rev 0; IFC	6/21/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG223		Rev 0; IFC	6/21/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG224		Rev 0; IFC	6/21/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG225		Rev 0; IFC	6/20/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG226		Rev 0; IFC	7/24/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG227		Rev 0; IFC	10/9/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG228		Rev 0; IFC	10/9/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG229		Rev 0; IFC	10/13/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG230		Rev 0; IFC	8/13/03	8/22/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG231		Rev 0; IFC	8/13/03	8/22/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG232		Rev 0; IFC	8/13/03	8/22/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG300		Rev 1; Revised after IFC	6/20/02	4/30/03	MCH		NO		Rev 1	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG301		Rev 0; IFC	6/20/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG302		Rev 0; IFC	6/20/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG303		Rev 0; IFC	6/20/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG304		Rev 1; Revised after IFC	6/21/02	4/30/03	MCH		NO		Rev 1	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG305		Rev 0; IFC	6/20/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG306		Rev 1; Revised after IFC	6/20/02	8/22/03	MCH		NO		Rev 1	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang

MS8-3 (Amended) Todd Production Inventory (Book 02)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-20-ST-DG-1104-PG307		Rev 1; Revised after IFC	6/20/02	8/22/03	MCH		NO		Rev 1	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG308		Rev 1; Revised after IFC	6/20/02	11/25/03	MCH		NO		Rev 1	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG309		Rev 1; Revised after IFC	6/20/02	8/22/03	MCH		NO		Rev 1	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG310		Rev 0; IFC	6/20/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG311		Rev 0; IFC	7/25/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG313		Rev 0; IFC	6/21/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG314		Rev 0; IFC	6/21/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG315		Rev 1; Revised after IFC	6/21/02	8/22/03	MCH		NO		Rev 1	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG316		Rev 0; IFC	6/21/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG317		Rev 0; IFC	6/21/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG318		Rev 0; IFC	6/21/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG319		Rev 0; IFC	6/21/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG320		Rev 0; IFC	6/21/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG321		Rev 0; IFC	6/20/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG322		Rev 3; Revised after IFC	6/21/02	8/22/03	MCH		NO		Rev 3	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG323		Rev 3; Revised after IFC	6/21/02	5/20/03	MCH		NO		Rev 3	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG324		Rev 0; IFC	6/20/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG325		Rev 0; IFC	7/18/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG326		Rev 0; IFC	7/24/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG327		Rev 1; Revised after IFC	10/13/02	3/30/03	MCH		NO		Rev 1	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG328		Rev 0; IFC	8/13/03	8/22/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG329		Rev 0; IFC	8/13/03	8/22/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG330		Rev 0; IFC	8/13/03	8/22/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1201-001	Framing Plan at Lower Level	Rev 3; Revised after IFC	9/9/03	2/9/04			NO		Rev 3			Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1201-002	Framing Plan at Lower Level	Rev 2; Revised after IFC	9/9/03	4/9/04	MCH		NO		Rev 2	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1201-003	Framing Plan at Lower Level	Rev 4; AF/AC	9/8/03	12/6/06			NO		Rev 3			Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1201-004	Framing Plan at Lower Level	Rev 4; AF/AC	9/8/03	6/21/08			NO		Rev 2	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang

MS8-3 (Amended) Todd Production Inventory (Book 02)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-20-ST-DG-1202-001	Framing Plan at Lower Level	Rev 2; Revised after IFC	9/9/03	6/21/08			NO		Rev 1	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1202-002	Misc Framing Sections	Rev 3; AF/AC	9/9/03	12/6/06			NO		Rev 2	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1202-003	Misc Framing Sections	Rev 0; IFC	9/22/03	11/30/03	MCH		NO		Rev 0	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1202-004	Misc Framing Sections	Rev 2; AF/AC	10/28/03	12/6/06			NO		Rev 1	DRR		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1203-001	Equipment Support Details	Rev 2; Revised after IFC	9/9/03	12/5/03	MCH		NO		Rev 2	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1203-002	Equipment Support Details	Rev 2; Revised after IFC	9/9/03	4/14/04	MCH		NO		Rev 2	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1203-003	Equipment Support Details	Rev 3; Revised after IFC	10/2/03	5/13/04	DRR		NO		Rev 3	DRR		Topside Production	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-1203-004	Equipment Support Details	Rev 1; Revised after IFC	9/25/03	1/12/04			NO		Rev 1			Topside Production	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-1203-005	Equipment Support Details	Rev 1; Revised after IFC	10/20/03	4/15/04	MCH		NO		Rev 1	MCH		Topside Production	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-1203-006	Equipment Support Details	Rev 1; Revised after IFC	11/17/03	5/13/04	DRR		NO		Rev 1	DRR		Topside Production	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-1203-007	Equipment Support Details	Rev 0; IFC	11/17/03	12/9/03	DRR		NO		Rev 0	DRR		Topside Production	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-1203-008	Equipment Support Details	Rev 0; IFC	11/17/03	12/9/03	DRR		NO		Rev 0	DRR		Topside Production	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-1204-001	Lower Leve Plating	Rev 4; AF/AC	6/17/03	2/1/09			NO		Rev 2	DRR		Topside Production	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-1204-002	Lower Leve Plating	Rev 2; Revised after IFC	6/16/03	4/14/04	DRR		NO		Rev 2	DRR		Topside Production	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-1204-003	Lower Leve Plating	Rev 4; AF/AC	6/16/03				NO		Rev 2	DRR		Topside Production	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-1204-004	Lower Leve Plating	Rev 4; AF/AC	6/18/03	6/21/08			NO		Rev 2	DRR		Topside Production	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-1205-001	Lower Leve Plating	Rev 2; Revised after IFC	9/11/03	4/14/04	DRR		NO		Rev 2	DRR		Topside Production	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-1205-002	Lower Leve Plating	Rev 2; Revised after IFC	9/11/03	4/14/04	DRR		NO		Rev 2	DRR		Topside Production	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-1205-003	Lower Leve Plating	Rev 3; AF	9/16/03	7/1/08			NO		Rev 1	DRR		Topside Production	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-1205-004	Lower Leve Plating	Rev 0; IFC	4/11/04	4/14/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-1206-001	Framing Plan at Upper Level	Rev 2; AF/AC	9/19/03	12/6/06			NO		Rev 1	DRR		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1206-002	Framing Plan at Upper Level	Rev 3; AF	9/19/03	12/6/06			NO		Rev 1	DRR		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1206-003	Framing Plan at Upper Level	Rev 2; AF/AC	9/18/03	12/6/06			NO		Rev 1	DRR		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1206-004	Framing Plan at Upper Level	Rev 3; AF	9/18/03	12/6/06	DAH		NO		Rev 1	DRR		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1211-001	Misc Outfitting Steel	Rev 2; AF/AC	11/11/03	12/6/06			NO		Rev 1	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1211-002	Misc Outfitting Steel	Rev 2; AF/AC	11/11/03	12/6/06			NO		Rev 1	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1211-003	Misc Outfitting Steel	Rev 2; AF/AC	11/11/03	12/6/06			NO		Rev 1	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang

MS8-3 (Amended) Todd Production Inventory (Book 02)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-20-ST-DG-1211-004	Misc Outfitting Steel	Rev 1; Revised after IFC	11/11/03	5/24/04	MCH		NO		Rev 1	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1212-001	Misc Outfitting Steel	Rev 2; AF/AC	12/1/03	12/6/06			NO		Rev 1	DRR		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1212-002	Misc Outfitting Steel	Rev 2; Revised after IFC	12/1/03	6/28/05			NO		Rev 2			Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1212-003	Misc Outfitting Steel	Rev 1; Revised after IFC	12/1/03	4/13/04	DRR		NO		Rev 1	DRR		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1212-004	Misc Outfitting Steel	Rev 2; Revised after IFC	12/1/03				NO		Rev 1			Topside Production	YES	P.A. Skrobarczyk TX 79336	Mustang
1440-20-ST-DG-1215-001	Lower Level Hatch Details	Rev 0; IFC	9/30/03	10/7/03	MCH		NO		Rev 0	MCH		Topside Production	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-1215-002	Lower Level Hatch Details	Rev 0; IFC	1/8/04	2/9/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-1216-001	Upper Level Hatch Details	Rev 1; Revised after IFC	11/13/03	11/13/04	DRR		NO		Rev 1	DRR		Topside Production	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-1221-001	Upper Leve Plating	Rev 1; Revised after IFC	9/2/03	5/13/04	DRR		NO		Rev 1	DRR		Topside Production	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-1222-001	Upper Leve Plating	Rev 1; Revised after IFC	9/2/03	5/13/04	DRR		NO		Rev 1	DRR		Topside Production	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-1223-001	Upper Leve Plating	Rev 1; Revised after IFC	9/2/03	5/13/04	DRR		NO		Rev 1	DRR		Topside Production	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-1224-001	Upper Leve Plating	Rev 1; Revised after IFC	9/2/03	5/13/04	DRR		NO		Rev 1	DRR		Topside Production	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-1225-001	Upper Leve Plating	Rev 1; Revised after IFC	10/24/03	5/13/04	DRR		NO		Rev 1	DRR		Topside Production	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-1226-001	Upper Leve Plating	Rev 2; AF/AC	12/2/03	12/6/06			NO		Rev 1	DRR		Topside Production	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-1227-001	Gen Temporary laydown area	Rev 0; IFC	4/22/04	4/29/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1231-001	Primary Steel Lower Level	Rev 0; IFC	10/15/03	11/6/03	MCH		NO		Rev 0	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1241-001	Primary Steel Lower Level	Rev 0; IFC	10/9/03	12/12/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1242-001	Monorail Details	Rev 0; IFC	10/10/03	12/19/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1243-001	Monorail Details	Rev 0; IFC	10/10/03	12/18/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1244-001	Monorail Details	Rev 0; IFC	10/10/03	4/21/04	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1251-001	Pipe Cassette	Rev 1; Revised after IFC	11/12/03	6/21/04	MCH		NO		Rev 1	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1252-001	Pipe Cassette	Rev 1; Revised after IFC	11/12/03	6/21/04	MCH		NO		Rev 1	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1253-001	Pipe Cassette	Rev 1; Revised after IFC	11/12/03	6/21/04	MCH		NO		Rev 1	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1254-001	Pipe Cassette	Rev 1; Revised after IFC	11/12/03	6/21/04	MCH		NO		Rev 1	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1255-001	Pipe Cassette	Rev 1; Revised after IFC	11/12/03	6/21/04	MCH		NO		Rev 1	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1256-001	Pipe Cassette	Rev 1; Revised after IFC	11/12/03	6/21/04	MCH		NO		Rev 1	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1257-001	Pipe Cassette	Rev 1; Revised after IFC	11/17/03	6/21/04	MCH		NO		Rev 1	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang

MS8-3 (Amended) Todd Production Inventory (Book 02)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-20-ST-DG-1258-001	Pipe Cassette	Rev 0; IFC	11/12/03	11/21/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1261-001	Crane Boom Rest Details	Rev 0; IFC	10/21/03	12/19/03	MCH		NO		Rev 0	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1262-001	Crane Boom Rest Details	Rev 0; IFC	10/21/03	12/19/03	MCH		NO		Rev 0	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1271-001	Lower Level Loading Hose	Rev 0; IFC	11/26/03	12/18/03	MCH		NO		Rev 0	MCH		Topside Production	YES	Ricky D. Zeplin TX 68767	Mustang
1440-20-ST-DG-1271-002	Lower Level Loading Hose	Rev 1; Revised after IFC	11/26/03	1/17/04	DRR		NO		Rev 1	DRR		Topside Production	YES	Ricky D. Zeplin TX 68767	Mustang
1440-20-ST-DG-1281-001	Lower Level Loading Hose	Rev 0; IFC	5/19/04	5/23/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1282-001	Tote Tank Bumper Wall	Rev 1; Revised after IFC	10/14/03	1/13/04	DRR		NO		Rev 1	DRR		Topside Production	YES	Ricky D. Zeplin TX 68767	Mustang
1440-20-ST-DG-1283-001	Tote Tank Hose Rack	Rev 0; IFC	4/14/04	4/21/04	DRR		NO		Rev 0	DRR		Topside Production	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-1285-001	Camera Supports	Rev 0; AF/AC	6/1/05	12/6/06			NO					Topside Production	NO		Mustang
1440-20-ST-DG-1351-001	Stair Key Plan	Rev 0; IFC	2/27/04	3/12/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-1352-001	North Stair Tower	Rev 2; Revised after IFC	12/5/03	2/9/09			NO		Rev 1	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1353-001	North Stair Tower	Rev 1; Revised after IFC	10/9/03	5/13/04	DRR		NO		Rev 1	DRR		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1354-001	North Stair Tower	Rev 0; IFC	10/9/03	12/9/03	MCH		NO		Rev 0	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1355-001	North Stair Tower	Rev 1; Revised after IFC	10/9/03	2/1/05			NO		Rev 1			Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1356-001	North Stair Tower	Rev 1; Revised after IFC	10/9/03	2/1/05			NO		Rev 1			Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1357-001	North Stair Tower	Rev 2; Revised after IFC	10/9/03	2/1/05			NO		Rev 2			Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1360-001	South Stair Tower	Rev 2; AF/AC	11/12/03	12/6/06			NO		Rev 1	DRR		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1361-001	South Stair Tower	Rev 1; Revised after IFC	11/12/03	11/23/04	DRR		NO		Rev 1	DRR		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1362-001	South Stair Tower	Rev 1; AF/AC	12/3/03	12/6/06			NO		Rev 0	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1363-001	South Stair Tower	Rev 1; Revised after IFC	12/9/03	5/23/04	DRR		NO		Rev 1	DRR		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1364-001	South Stair Tower	Rev 0; IFC	12/11/03	1/27/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1365-001	South Stair Tower	Rev 1; AF/AC	12/11/03	12/6/06			NO		Rev 0	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1374-001	South Stair Tower	Rev 0; IFC	10/14/03	2/23/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1374-002	South Stair Tower	Rev 0; IFC	9/17/03	2/23/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1375-001	Access Platform	Rev 1; Revised after IFC	12/17/03	12/6/06			NO		Rev 0	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1375-002	Access Platform	Rev 0; IFC	11/27/06	12/6/06			NO					Topside Production	YES	Farrel Zwerneman TX 83137	Mustang
1440-20-ST-DG-1376-001	Access Platform	Rev 1; Revised after IFC	1/20/04	12/6/06			NO		Rev 0	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang

MS8-3 (Amended) Todd Production Inventory (Book 02)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-20-ST-DG-1376-002	Access Platform	Rev 1; Revised after IFC	11/27/06	12/6/06			NO					Topside Production	YES	Farrel Zwerneman TX 83137	Mustang
1440-20-ST-DG-1377-001	Access Platform	Rev 0; IFC	12/11/03	2/4/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1378-001	Access Platform	Rev 1; AF/AC	12/21/03	12/6/06			NO		Rev 0	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1379-001	Access Platform	Rev 0; IFC	1/13/04	2/23/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1380-001	Access Platform	Rev 0; IFC	1/13/04	2/23/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1381-001	Access Platform	Rev 1; Revised after IFC	1/10/04	5/13/04	DRR		NO		Rev 1	DRR		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1382-001	Access Platform	Rev 0; IFC	1/10/04	2/23/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1383-001	Access Platform	Rev 2; AF/AC	1/10/04	12/6/06			NO		Rev 1	DRR		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1384-001	Access Platform	Rev 1; Revised after IFC	1/10/04	5/13/04			NO		Rev 1	DRR		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1385-001	Intermediate Stair Landing	Rev 0; IFC	1/9/04	2/18/04			NO		Rev 0	DRR		Topside Production	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-1386-001	Flare Piping Access Platform	Rev 0; IFC	2/9/04	3/3/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Ricky D. Zeplin TX 68767	Mustang
1440-20-ST-DG-1387-001	Flare Piping Access Platform	Rev 0; IFC	2/9/04	3/3/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Ricky D. Zeplin TX 68767	Mustang
1440-20-ST-DG-1389-001	Flare Piping Access Platform	Rev 0; IFC	2/9/04	3/3/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Ricky D. Zeplin TX 68767	Mustang
1440-20-ST-DG-1390-001	Flare Piping Access Platform	Rev 0; IFC	2/9/04	3/3/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Ricky D. Zeplin TX 68767	Mustang
1440-20-ST-DG-1391-001	Flare Piping Access Platform	Rev 0; IFC	2/9/04	3/3/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Ricky D. Zeplin TX 68767	Mustang
1440-20-ST-DG-1392-001	Hull Access Platform	Rev 0; AF/AC	6/22/05	12/6/06			NO					Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1401-001	MPS-101	Rev 0; IFC	1/29/04	2/23/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1402-001	MPS-102	Rev 1; Revised after IFC	2/3/04	4/1/04	MCH		NO		Rev 1	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1403-001	MPS-103	Rev 1; Revised after IFC	2/6/04	4/14/04	MCH		NO		Rev 1	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1404-001	MPS-104	Rev 1; AF/AC	4/28/04	12/6/06			NO		Rev 0	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1411-001	MPS Misc Details	Rev 0; IFC	2/20/04	2/23/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1461-001	Pipe Monorail Support	Rev 0; IFC	12/9/03	2/4/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Ricky D. Zeplin TX 68767	Mustang
1440-20-ST-DG-1462-001	Pipe Monorail Support	Rev 0; IFC	12/9/03	2/4/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Ricky D. Zeplin TX 68767	Mustang
1440-20-ST-DG-1463-001	Pipe Monorail Support	Rev 0; IFC	12/9/03	2/4/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Ricky D. Zeplin TX 68767	Mustang
1440-20-ST-DG-1464-001	Pipe Support Structure	Rev 0; IFC	3/9/04	3/22/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Ricky D. Zeplin TX 68767	Mustang
1440-20-ST-DG-1465-001	Pipe Support Structure	Rev 0; IFC	3/10/04	3/22/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Ricky D. Zeplin TX 68767	Mustang
1440-20-ST-DG-1466-001	Pipe Support Structure	Rev 1; Revised after IFC	3/10/04	5/13/04	RDZ		NO		Rev 1	RDZ		Topside Production	YES	Ricky D. Zeplin TX 68767	Mustang

MS8-3 (Amended) Todd Production Inventory (Book 02)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-20-ST-DG-1467-001	Pipe Support Structure	Rev 0; IFC	3/11/04	3/22/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Ricky D. Zeplin TX 68767	Mustang
1440-20-ST-DG-1468-001	Pipe Support Structure	Rev 1; Revised after IFC	3/14/04	5/13/04	RDZ		NO		Rev 1	RDZ		Topside Production	YES	Ricky D. Zeplin TX 68767	Mustang
1440-20-ST-DG-1469-001	Pipe Support Structure	Rev 0; IFC	3/14/04	3/22/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Ricky D. Zeplin TX 68767	Mustang
1440-20-ST-DG-1470-001	Pipe Support Structure	Rev 0; IFC	3/15/04	3/22/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Ricky D. Zeplin TX 68767	Mustang
1440-20-ST-DG-1471-001	Pipe Support Structure	Rev 1; Revised after IFC	3/16/04	5/13/04	RDZ		NO		Rev 1	RDZ		Topside Production	YES	Ricky D. Zeplin TX 68767	Mustang
1440-20-ST-DG-1472-001	Pipe Support Structure	Rev 0; IFC	3/16/04	3/22/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Ricky D. Zeplin TX 68767	Mustang
1440-20-ST-DG-1473-001	Pipe Support Structure	Rev 1; Revised after IFC	3/15/04	5/13/04	RDZ		NO		Rev 1	RDZ		Topside Production	YES	Ricky D. Zeplin TX 68767	Mustang
1440-20-ST-DG-1475-001	Cooler Platform HGB	Rev 1; As-Built	10/31/05	1/25/07			NO					Topside Production	YES	P.A. Skrobarczyk TX 79336	Mustang
1440-20-ST-DG-1475-002	Cooler Platform HGB	Rev 1; Revised after IFC	10/31/05	1/8/06			NO					Topside Production	YES	P.A. Skrobarczyk TX 79336	Mustang
1440-20-ST-DG-1475-003	Cooler Platform HGB	Rev 0; IFC	10/31/05	11/8/05			NO					Topside Production	YES	P.A. Skrobarczyk TX 79336	Mustang
1440-20-ST-DG-1475-004	Cooler Platform HGB	Rev 0; IFC	10/31/05	11/8/05			NO					Topside Production	YES	P.A. Skrobarczyk TX 79336	Mustang
1440-20-ST-DG-1476-001	Cooler Platform HGB	Rev 1; Revised after IFC	10/31/05	1/13/06			NO					Topside Production	YES	P.A. Skrobarczyk TX 79336	Mustang
1440-20-ST-DG-1476-002	Cooler Platform HGB	Rev 0; IFC	10/31/05	11/8/05			NO					Topside Production	YES	P.A. Skrobarczyk TX 79336	Mustang
1440-20-ST-DG-1476-003	Cooler Platform HGB	Rev 1; Revised after IFC	10/31/05	1/13/06			NO					Topside Production	YES	P.A. Skrobarczyk TX 79336	Mustang
1440-20-ST-DG-1476-004	Cooler Platform HGB	Rev 0; IFC	10/31/05	11/8/05			NO					Topside Production	YES	P.A. Skrobarczyk TX 79336	Mustang
1440-20-ST-DG-1476-005	Cooler Platform HGB	Rev 0; IFC	10/31/05	11/8/05			NO					Topside Production	YES	P.A. Skrobarczyk TX 79336	Mustang
1440-20-ST-DG-1477-001	Cooler Platform HGB	Rev 0; IFC	11/7/05	11/10/05	JWF		NO					Topside Production	YES	P.A. Skrobarczyk TX 79336	Mustang
1440-20-ST-DG-1477-002	Cooler Platform HGB	Rev 0; IFC	11/7/05	11/10/05	JWF		NO					Topside Production	YES	P.A. Skrobarczyk TX 79336	Mustang
1440-20-ST-DG-1481-001	Bumpers & Guides Plan	Rev 1; AF/AC	1/9/04	12/6/06			NO		Rev 0	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1482-001	Bumpers & Guides Details	Rev 0; IFC	1/9/04	4/19/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1482-002	Bumpers & Guides Details	Rev 0; IFC	1/9/04	4/19/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1482-003	Bumpers & Guides Details	Rev 1; AF/AC	1/9/04	12/6/06			NO		Rev 0	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1482-004	Bumpers & Guides Details	Rev 1; Revised after IFC	1/9/04	5/13/04	MCH		NO		Rev 1	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1482-006	Bumpers & Guides Details	Rev 1; AF/AC	1/9/04	12/6/06			NO		Rev 0	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1483-001	Hang-off Bollard Details	Rev 0; IFC	8/20/04	9/10/04			NO		Rev 0			Topside Production	YES	David F. Grimm TX 93067	Mustang
1440-20-ST-DG-1501-001	Module Column to Hull Details	Rev 0; IFC	11/3/03	2/20/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1601-002	Prod Module Lifting Arrangement	Rev 0; IFC	3/19/03	2/18/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang

MS8-3 (Amended) Todd Production Inventory (Book 02)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-20-ST-DG-1602-001	Prod Module Lifting Arrangement	Rev 1; Revised after IFC	3/5/04	5/13/04	DRR		NO		Rev 1	DRR		Topside Production	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-1603-001	Module Integration Details	Rev 1; AF/AC	3/10/04	12/6/06			NO		Rev 0	MCH		Topside Production	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-1604-001	Module Integration Details	Rev 1; AF/AC	3/10/04	12/6/06			NO		Rev 0	MCH		Topside Production	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-1801-001	Instrument Access Platform	Rev 0; IFC	4/30/04	5/27/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Ricky D. Zeplin TX 68767	Mustang
1440-20-ST-DG-1801-002	Instrument Access Platform	Rev 0; IFC	5/4/04	5/27/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Ricky D. Zeplin TX 68767	Mustang
1440-20-ST-DG-1802-001	Instrument Access Platform	Rev 0; IFC	5/5/04	5/27/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Ricky D. Zeplin TX 68767	Mustang
1440-20-ST-DG-1802-002	Instrument Access Platform	Rev 0; IFC	5/6/04	5/27/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Ricky D. Zeplin TX 68767	Mustang
1440-20-ST-DG-1803-001	Instrument Access Platform	Rev 0; IFC	3/3/04	4/8/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Ricky D. Zeplin TX 68767	Mustang
1440-20-ST-DG-1804-001	Instrument Access Platform	Rev 0; IFC	3/9/04	4/8/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Ricky D. Zeplin TX 68767	Mustang
1440-20-ST-DG-1805-001	Instrument Access Platform	Rev 0; IFC	4/15/04	4/28/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Ricky D. Zeplin TX 68767	Mustang
1440-20-ST-DG-1806-001	Instrument Access Platform	Rev 0; IFC	4/13/04	4/28/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Ricky D. Zeplin TX 68767	Mustang
1440-20-ST-DG-1806-002	Instrument Access Platform	Rev 0; IFC	4/13/04	4/28/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Ricky D. Zeplin TX 68767	Mustang
1440-20-ST-DG-1807-001	Instrument Access Platform	Rev 0; IFC	4/8/04	4/28/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Ricky D. Zeplin TX 68767	Mustang
1440-20-ST-DG-1808-001	Instrument Access Platform	Rev 0; IFC	3/15/04	4/8/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Ricky D. Zeplin TX 68767	Mustang
1440-20-ST-DG-1809-001	Instrument Access Platform	Rev 0; IFC	3/3/04	4/8/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Ricky D. Zeplin TX 68767	Mustang
1440-20-ST-DG-1810-001	Instrument Access Platform	Rev 0; IFC	3/5/04	4/8/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Ricky D. Zeplin TX 68767	Mustang
1440-20-ST-DG-1811-001	Instrument Access Platform	Rev 0; IFC	3/11/04	4/8/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Ricky D. Zeplin TX 68767	Mustang
1440-20-ST-DG-1812-001	Instrument Access Platform	Rev 0; IFC	4/6/04	4/28/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Ricky D. Zeplin TX 68767	Mustang
1440-20-ST-DG-1813-001	Instrument Access Platform	Rev 0; IFC	5/4/04	5/27/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Ricky D. Zeplin TX 68767	Mustang
1440-20-ST-DG-1820-001	Pigging Pump Skid Support	Rev 1; Revised after IFC	7/21/08	10/26/08	NP		NO					Topside Production	YES	Farrel Zwerneman TX 83137	Mustang
1440-20-ST-DG-1820-002	Pigging Pump Skid Support	Rev 0; IFC	7/21/08	9/9/08	NP		NO					Topside Production	YES	Farrel Zwerneman TX 83137	Mustang
1440-20-ST-DG-1820-003	Pigging Pump Skid Support	Rev 0; IFC	7/21/08	9/29/08	NP		NO					Topside Production	YES	Farrel Zwerneman TX 83137	Mustang
1440-20-ST-DG-1820-004	Pigging Pump Skid Support	Rev 1; Revised after IFC	7/21/08	11/18/08	NP		NO					Topside Production	YES	Farrel Zwerneman TX 83137	Mustang
1440-20-ST-DG-1820-005	Pigging Pump Skid Support	Rev 0; IFC	7/21/08	9/29/08	NP		NO					Topside Production	YES	Farrel Zwerneman TX 83137	Mustang

MS8-3 (Amended) Todd Production Inventory (Book 02)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-20-ST-DG-1820-006	Pigging Pump Skid Support	Rev 0; IFC	7/21/08	9/29/08	NP		NO					Topside Production	YES	Farrel Zwerneman TX 83137	Mustang
1440-20-ST-DG-1820-007	Pigging Pump Skid Support	Rev 1; Revised after IFC	7/21/08	9/29/08	NP		NO					Topside Production	YES	Farrel Zwerneman TX 83137	Mustang
1440-20-ST-DG-1820-008	Pigging Pump Skid Support	Rev 0; IFC	8/28/08	9/29/08	NP		NO					Topside Production	YES	Farrel Zwerneman TX 83137	Mustang
1440-20-ST-DG-1821-001	Pigging Pump Skid	Rev 1; Revised after IFC	7/21/08	12/1/08	NP		NO					Topside Production	YES	Farrel Zwerneman TX 83137	Mustang
1440-20-ST-DG-1821-002	Pigging Pump Skid	Rev 1; Revised after IFC	7/21/08	12/1/08	NP		NO					Topside Production	YES	Farrel Zwerneman TX 83137	Mustang
1440-20-ST-DG-1821-003	Pigging Pump Skid	Rev 1; Revised after IFC	7/21/08	12/1/08	NP		NO					Topside Production	YES	Farrel Zwerneman TX 83137	Mustang
1440-20-ST-DG-1821-004	Pigging Pump Skid	Rev 1; Revised after IFC	7/21/08	12/1/08	NP		NO					Topside Production	YES	Farrel Zwerneman TX 83137	Mustang
1440-20-ST-DG-1821-005	Pigging Pump Skid	Rev 1; Revised after IFC	7/21/08	12/1/08	NP		NO					Topside Production	YES	Farrel Zwerneman TX 83137	Mustang
1440-20-ST-DG-1821-006	Pigging Pump Skid	Rev 1; Revised after IFC	7/21/08	12/1/08	NP		NO					Topside Production	YES	Farrel Zwerneman TX 83137	Mustang
1440-20-ST-DG-1821-007	Pigging Pump Skid	Rev 1; Revised after IFC	7/21/08	12/1/08	NP		NO					Topside Production	YES	Farrel Zwerneman TX 83137	Mustang
1440-20-ST-DG-1821-008	Pigging Pump Skid	Rev 1; Revised after IFC	7/21/08	12/1/08	NP		NO					Topside Production	YES	Farrel Zwerneman TX 83137	Mustang
1440-20-ST-DG-1821-009	Pigging Pump Skid	Rev 0; IFC	7/21/08	8/19/08	NP		NO					Topside Production	YES	Farrel Zwerneman TX 83137	Mustang
1440-20-ST-DG-1821-010	Pigging Pump Skid	Rev 0; IFC	7/21/08	8/19/08	NP		NO					Topside Production	YES	Farrel Zwerneman TX 83137	Mustang
1440-20-ST-DG-1821-011	Pigging Pump Skid	Rev 0; IFC	7/21/08	8/19/08	NP		NO					Topside Production	YES	Farrel Zwerneman TX 83137	Mustang
1440-20-ST-DG-1821-012	Pigging Pump Skid	Rev 1; Revised after IFC	8/19/08	11/19/08	NP		NO					Topside Production	YES	Farrel Zwerneman TX 83137	Mustang
1440-20-ST-DG-1821-013	Pigging Pump Skid	Rev 1; Revised after IFC	8/19/08	11/19/08	NP		NO					Topside Production	YES	Farrel Zwerneman TX 83137	Mustang
1440-20-ST-DG-1821-014	Pigging Pump Skid	Rev 0; IFC	11/11/08	11/18/08			NO					Topside Production	YES	Joseph L. Wietzel TX 73644	Mustang
1440-20-ST-DG-1822-001	Pigging Pump Skid	Rev 1; Revised after IFC	7/21/08	10/24/08	NP		NO					Topside Production	YES	Farrel Zwerneman TX 83137	Mustang

MS8-3 (Amended) Todd Production Inventory (Book 02)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-20-ST-DG-1822-002	Pigging Pump Skid	Rev 1; Revised after IFC	7/21/08	10/24/08	NP		NO					Topside Production	YES	Farrel Zwerneman TX 83137	Mustang
1440-20-ST-DG-1822-003	Pigging Pump Skid	Rev 1; Revised after IFC	7/21/08	10/24/08	NP		NO					Topside Production	YES	Farrel Zwerneman TX 83137	Mustang
1440-20-ST-DG-1822-004	Pigging Pump Skid	Rev 0; IFC	7/21/08	10/8/08	NP		NO					Topside Production	YES	Farrel Zwerneman TX 83137	Mustang
1440-20-ST-DG-1823-001	Pigging Pump Skid	Rev 0; IFC	7/21/08	10/6/08	NP		NO					Topside Production	YES	Farrel Zwerneman TX 83137	Mustang
1440-20-ST-DG-1823-002	Pigging Pump Skid	Rev 1; Revised after IFC	7/21/08	6/11/09	NP		NO					Topside Production	YES	Farrel Zwerneman TX 83137	Mustang
1440-20-ST-DG-1824-001	Pigging Pump Skid	Rev 0; IFC	10/8/08	10/24/08	NP		NO					Topside Production	YES	Farrel Zwerneman TX 83137	Mustang
1440-20-ST-DG-1824-002	Pigging Pump Skid	Rev 0; IFC	10/8/08	10/24/08	NP		NO					Topside Production	YES	Farrel Zwerneman TX 83137	Mustang
1440-20-ST-DG-1824-003	Pigging Pump Skid	Rev 0; IFC	10/8/08	10/24/08	NP		NO					Topside Production	YES	Farrel Zwerneman TX 83137	Mustang
1440-20-ST-DG-1824-004	Pigging Pump Skid	Rev 0; IFC	10/8/08	10/24/08	NP		NO					Topside Production	YES	Farrel Zwerneman TX 83137	Mustang
1440-20-ST-DG-1824-005	Pigging Pump Skid	Rev 1; Revised after IFC	10/8/08	12/1/08	NP		NO					Topside Production	YES	Farrel Zwerneman TX 83137	Mustang
1440-20-ST-DG-1824-006	Pigging Pump Skid	Rev 0; IFC	10/8/08	10/24/08	NP		NO					Topside Production	YES	Farrel Zwerneman TX 83137	Mustang
1440-20-ST-DG-1830-001	O2 Scavenger Storage Tank	Rev 2; Revised after IFC	1/19/09	6/1/09	JLW		NO					Topside Production	YES	Joseph L. Wietzel TX 73644	Mustang
1440-20-ST-DG-1830-002	O2 Scavenger Storage Tank	Rev 2; Revised after IFC	1/19/09	6/1/09	JLW		NO					Topside Production	YES	Joseph L. Wietzel TX 73644	Mustang
1440-20-ST-DG-1830-003	O2 Scavenger Storage Tank	Rev 1; Revised after IFC	1/19/09	3/20/09	JLW		NO					Topside Production	YES	Joseph L. Wietzel TX 73644	Mustang
1440-20-ST-DG-1830-004	O2 Scavenger Storage Tank	Rev 1; Revised after IFC	1/19/09	3/20/09	JLW		NO					Topside Production	YES	Joseph L. Wietzel TX 73644	Mustang
1440-20-ST-DG-1830-005	O2 Scavenger Storage Tank	Rev 0; IFC	4/3/09	4/20/09	JLW		NO					Topside Production	YES	Joseph L. Wietzel TX 73644	Mustang
1440-20-ST-DG-1830-006	O2 Scavenger Storage Tank	Rev 1; Revised after IFC	3/23/09	6/3/09	JLW		NO					Topside Production	YES	Joseph L. Wietzel TX 73644	Mustang
1440-20-ST-DG-1830-007	O2 Scavenger Storage Tank	Rev 0; IFC	3/23/09	4/20/09	JLW		NO					Topside Production	YES	Joseph L. Wietzel TX 73644	Mustang
1440-20-ST-DG-1830-008	O2 Scavenger Storage Tank	Rev 0; IFC	4/6/09	4/28/09	JLW		NO					Topside Production	YES	Joseph L. Wietzel TX 73644	Mustang
1440-20-ST-DG-1830-009	O2 Scavenger Storage Tank	Rev 0; IFC	4/6/09	4/28/09	JLW		NO					Topside Production	YES	Joseph L. Wietzel TX 73644	Mustang
1440-20-ST-DG-1830-010	O2 Scavenger Storage Tank	Rev 0; IFC	5/11/09	6/1/09	JLW		NO					Topside Production	YES	Joseph L. Wietzel TX 73644	Mustang
1440-20-ST-DG-1830-011	O2 Scavenger Storage Tank	Rev 0; IFC	5/11/09	6/1/09	JLW		NO					Topside Production	YES	Joseph L. Wietzel TX 73644	Mustang

MS8-3 (Amended) Todd Production Inventory (Book 02)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-20-ST-DG-1830-012	O2 Scavenger Storage Tank	Rev 0; IFC	5/11/09	6/1/09	JLW		NO					Topside Production	YES	Joseph L. Wietzel TX 73644	Mustang
1440-20-ST-DG-5500-001	Skids Drawing Index & Notes	Rev 6; Revised after IFC	4/1/03	7/18/03	DRR		NO		Rev 6	DRR		Topsde Skid Drawings	Yes	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5500-002	Typical Weld Connection	Rev 0; IFC	6/24/03	7/18/03	DRR		NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5500-003	Typical Weld Connection	Rev 0; IFC	6/24/03	7/18/03	DRR		NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5500-004	Typical Weld Connection	Rev 0; IFC	6/24/03	7/18/03	DRR		NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5500-005	Typical Skid Handrail	Rev 1; Revised after IFC	6/17/03	7/28/03	DRR		NO		Rev 1	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5500-006	Typical Skid Handrail	Rev 1; Revised after IFC	6/16/03	7/28/03	DRR		NO		Rev 1	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5501	VCU Skid lower Level	Rev 0; IFC	3/5/03	7/24/03	DRR		NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5502	VCU Skid lower Level	Rev 0; IFC	3/5/03	7/30/03	DRR		NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5503	VCU Skid Framing Sections	Rev 0; IFC	3/5/03	7/24/03	DRR		NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5504	VCU Skid Connection Details	Rev 0; IFC	3/5/03	7/24/03	DRR		NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5505	VCU Skid Lift Details	Rev 0; IFC	3/5/03	7/24/03	DRR		NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5506	VCU Skid Lift Details	Rev 0; IFC	3/5/03	7/30/03	DRR		NO		Rev0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5507	VCU Skid Lift Details	Rev 0; IFC	7/16/03	7/25/03	DRR		NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5520	Booster Export Skid	Rev 1; Revised after IFC	11/1/02	8/12/03	DRR		NO		Rev 1	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5521	Booster Export Skid	Rev 2; As-Built	11/1/02	1/25/07			NO		Rev 1	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5522	Booster Export Skid	Rev 0; IFC	11/1/02	7/30/03	DRR		NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5523	Booster Export Skid	Rev 0; IFC	11/1/02	7/30/03	DRR		NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5524	Booster Export Skid	Rev 0; IFC	11/1/02	7/30/03	DRR		NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5525	Booster Export Skid	Rev 0; IFC	11/1/02	7/30/03	DRR		NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5526	Booster Export Skid	Rev 0; IFC	11/1/02	7/30/03	DRR		NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5527	Booster Export Skid	Rev 0; IFC	6/17/03	7/30/03	DRR		NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5528	Booster Export Skid	Rev 2; Revised after IFC	11/1/02	10/9/03	DRR		NO		Rev 2	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5529	Booster Export Skid	Rev 2; As-Built	7/28/03	1/25/07			NO		Rev 1	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5530	Booster Export Skid	Rev 0; IFC	7/28/03	7/28/03	DRR		NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5531	Booster Export Skid	Rev 0; IFC	7/28/03	7/30/03	DRR		NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5531	Booster Export Skid	Rev 1; Revised after IFC	11/1/02	8/12/03	DRR		NO		Rev 1	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang

MS8-3 (Amended) Todd Production Inventory (Book 02)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-20-ST-DG-5541	Booster Export Skid	Rev 2; As-Built	11/1/02	1/25/07			NO		Rev 1	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5542	Booster Export Skid	Rev 0; IFC	11/1/02	7/30/03	DRR		NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5543	Booster Export Skid	Rev 0; IFC	11/1/02	7/30/03	DRR		NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5544	Booster Export Skid	Rev 0; IFC	11/1/02	7/30/03	DRR		NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5545	Booster Export Skid	Rev 0; IFC	11/1/02	7/30/03	DRR		NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5546	Booster Export Skid	Rev 0; IFC	11/1/02	7/30/03	DRR		NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5547	Booster Export Skid	Rev 0; IFC	7/17/03	7/30/03	DRR		NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5549	Booster Export Skid	Rev 2; Revised after IFC	11/1/02	10/9/03	DRR		NO		Rev 2	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5550	Booster Export Skid	Rev 2; As-Built	7/28/03	1/25/07			NO		Rev 1	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5551	Booster Export Skid	Rev 0; IFC	7/28/03	7/28/03			NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5552	Booster Export Skid	Rev 0; IFC	7/28/03	7/30/03			NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5560	Launch Receiver Skid	Rev 1; Revised after IFC	12/6/02	8/12/03	DRR		NO		Rev 1	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5561	Launch Receiver Skid	Rev 1; Revised after IFC	12/6/02	8/12/03	DRR		NO		Rev 1	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5562	Launch Receiver Skid	Rev 0; IFC	2/20/03	7/18/03	DRR		NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5563	Launch Receiver Skid	Rev 1; Revised after IFC	2/20/03	8/12/03	DRR		NO		Rev 1	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5564	Launch Receiver Skid	Rev 1; As-Built	12/6/02	1/25/07			NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5565	Launch Receiver Skid	Rev 0; IFC	12/6/02	7/13/03	DRR		NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5566	Launch Receiver Skid	Rev 0; IFC	7/16/03	7/18/03	DRR		NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5570	Launch Receiver Skid	Rev 1; Revised after IFC	12/6/02	8/12/03	DRR		NO		Rev 1	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5571	Launch Receiver Skid	Rev 1; Revised after IFC	2/20/03	8/12/03	DRR		NO		Rev 1	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5572	Launch Receiver Skid	Rev 0; IFC	2/20/03	7/18/03	DRR		NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5573	Launch Receiver Skid	Rev 1; Revised after IFC	2/20/03	8/12/03	DRR		NO		Rev 1	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5574	Launch Receiver Skid	Rev 0; IFC	2/20/03	7/13/03	DRR		NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5575	Launch Receiver Skid	Rev 0; IFC	12/6/02	7/13/03	DRR		NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5580	Launch Receiver Skid	Rev 1; Revised after IFC	12/6/02	8/12/03	DRR		NO		Rev 1	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5581	Launch Receiver Skid	Rev 1; Revised after IFC	2/20/03	8/12/03	DRR		NO		Rev 1	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5582	Launch Receiver Skid	Rev 0; IFC	2/20/03	7/18/03	DRR		NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang

MS8-3 (Amended) Todd Production Inventory (Book 02)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-20-ST-DG-5583	Launch Receiver Skid	Rev 1; Revised after IFC	2/20/03	8/12/03	DRR		NO		Rev 1	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5584	Launch Receiver Skid	Rev 0; IFC	2/20/03	7/18/03	DRR		NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5585	Launch Receiver Skid	Rev 0; IFC	12/6/02	7/18/03	DRR		NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5590	Launch Receiver Skid	Rev 1; Revised after IFC	12/6/02	8/12/03	DRR		NO		Rev 1	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5591	Launch Receiver Skid	Rev 1; Revised after IFC	2/20/03	8/12/03	DRR		NO		Rev 1	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5592	Launch Receiver Skid	Rev 0; IFC	2/20/03	7/18/03	DRR		NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5593	Launch Receiver Skid	Rev 1; Revised after IFC	2/20/03	8/12/03	DRR		NO		Rev 1	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5594	Launch Receiver Skid	Rev 0; IFC	2/20/03	7/18/03	DRR		NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5595	Launch Receiver Skid	Rev 1; Revised after IFC	12/6/02	8/12/03	DRR		NO		Rev 1	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5600	Launch Receiver Skid	Rev 1; Revised after IFC	12/6/02	8/12/03	DRR		NO		Rev 1	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5601	Launch Receiver Skid	Rev 1; Revised after IFC	2/20/03	8/12/03	DRR		NO		Rev 1	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5602	Launch Receiver Skid	Rev 0; IFC	2/20/03	7/18/03	DRR		NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5603	Launch Receiver Skid	Rev 0; IFC	2/20/03	8/12/03	DRR		NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5604	Launch Receiver Skid	Rev 0; IFC	2/20/03	7/18/03	DRR		NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5605	Launch Receiver Skid	Rev 0; IFC	12/6/02	7/18/03	DRR		NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5610	Launch Receiver Skid	Rev 2; Revised after IFC	12/6/02	10/9/03	DRR		NO		Rev 2	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5611	Water Injection Launcher Skid	Rev 1; Revised after IFC	2/20/03	8/12/03	DRR		NO		Rev 1	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5612	Water Injection Launcher Skid	Rev 0; IFC	2/20/03	7/18/03	DRR		NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5613	Water Injection Launcher Skid	Rev 0; IFC	2/20/03	7/18/03	DRR		NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5614	Water Injection Launcher Skid	Rev 0; IFC	12/6/02	7/18/03	DRR		NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5615	Water Injection Launcher Skid	Rev 0; IFC	6/17/03	7/18/03	DRR		NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5616	Water Injection Launcher Skid	Rev 2; Revised after IFC	12/6/02	10/9/03	DRR		NO		Rev 2	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5617	Water Injection Launcher Skid	Rev 0; IFC	6/26/03	7/18/03	DRR		NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5618	Water Injection Launcher Skid	Rev 0; IFC	6/26/03	7/18/03	DRR		NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang

MS8-4 (Amended) Todd Production Inventory (Book 03)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-50-ST-DG-112-0001	Main Towing Brackets	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-ST-DG-112-0010	Main Towing Brackets	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-ST-DG-112-0011	Main Towing Brackets	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-ST-DG-112-0012	Main Towing Brackets	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-ST-DG-112-0013	Main Towing Brackets	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-ST-DG-112-0014	Harbour Tug Brackets	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-ST-DG-112-0015	Harbour Tug Brackets	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-ST-DG-112-0020	Harbour Tug Brackets	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-ST-DG-112-0021	Harbour Tug Brackets	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-ST-DG-112-0101	Drainage Collector	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-ST-DG-112-0102	Drainage Collector	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-ST-DG-112-0103	Drainage Collector	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-ST-DG-112-0104	Drainage Collector	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-ST-DG-112-0105	Drainage Collector	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-ST-DG-112-0106	Drainage Collector	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-ST-DG-112-0107	Disposal Caisson Details	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-ST-DG-112-0108	Disposal Caisson Details	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-ST-DG-112-3001	Column Shell Plate Expanded	Rev 60; As-Built	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-ST-DG-112-3002	Column Shell Plate Expanded	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-ST-DG-112-3003	Column Shell Plate Expanded	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-ST-DG-112-3004	Column Shell Plate Expanded	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-ST-DG-112-3010	Column Shell Plate Expanded	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-ST-DG-112-3031	Riser Hard Piping Supports	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-ST-DG-112-3032	Riser Hard Piping Supports	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME

MS8-4 (Amended) Todd Production Inventory (Book 03)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-50-ST-DG-112-3033	Riser Hard Piping Supports	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-MU-DG-800-5108	Riser Hard Piping Supports	Rev 60; IFC	10/1/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-MU-DG-800-5109	Riser Hard Piping Supports	Rev 60; IFC	10/1/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-MU-DG-800-5110,5111	Riser Hard Piping Supports	Rev 60; IFC	10/1/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-MU-DG-800-5112	Riser Hard Piping Supports	Rev 60; IFC	10/1/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-MU-DG-800-5113	Riser Hard Piping Supports	Rev 60; IFC	10/1/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-MU-DG-800-5114,5115	Riser Hard Piping Supports	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-ST-DG-112-3101	Plan of Column	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-ST-DG-112-3102	Plan of Column	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-ST-DG-112-3103	Plan of Column	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-ST-DG-112-3111	Plan of Stringers	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-ST-DG-112-3113	Plan of Stringers	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-ST-DG-112-3115	Plan of Stringers	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-ST-DG-112-3117	Plan of Stringers	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-ST-DG-112-3119	Plan of Stringers	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-ST-DG-112-3131	WT Stringer	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-ST-DG-112-3133	WT Stringer	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-ST-DG-112-3201	Longitudinal Center Bulkhead	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-ST-DG-112-3221	Trunk Bulkheads	Rev 60; As-Built	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-ST-DG-112-3301	Transversal Center Bulkhead	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-ST-DG-112-4001	Column Shell Plate Expanded	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-ST-DG-112-4002	Column Shell Plate Expanded	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-ST-DG-112-4003	Column Shell Plate Expanded	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-ST-DG-112-4004	Column Shell Plate Expanded	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME

MS8-4 (Amended) Todd Production Inventory (Book 03)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-50-ST-DG-112-4103	Plan of Column	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-ST-DG-112-4119	Plan of Stringers	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-ST-DG-110-0010	Main Structure	Rev 3; Issued for IDE	4/20/02	10/31/02			NO		Rev 3			Hull General	NO		GVA Consultants
1440-50-ST-DG-110-0001	Structural Arr't	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull General	NO		DSME
1440-50-ST-DG-110-0002	Structural Arr't	Rev 60; As-Built	7/25/03	3/28/05			NO		Rev 60			Hull General	NO		DSME
1440-50-ST-DG-110-0003	Structural Arr't	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull General	NO		DSME
1440-50-ST-DG-110-0004	Structural Arr't	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull General	NO		DSME
1440-50-ST-DG-110-0005	Structural Arr't	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull General	NO		DSME
1440-50-ST-DG-110-0006	Structural Arr't	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull General	NO		DSME
1440-50-ST-DG-110-0040	Tank Test Plan	Rev 60; As-Built	7/25/03	3/28/05			NO		Rev 60			Hull General	NO		DSME
1440-50-ST-DG-110-0041	Tank Test Plan	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull General	NO		DSME
1440-50-ST-DG-110-0042	Tank Test Plan	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull General	NO		DSME
1440-50-ST-DG-110-0043	Tank Test Plan	Rev 60; As-Built	9/19/03	3/28/05			NO		Rev 60			Hull General	NO		DSME
1440-50-ST-DG-110-0044	Main Structure Tank Test Plan	Rev 1; Issued for IDE	9/26/02	11/14/02			NO		Rev 1			Hull General	NO		GVA Consultants
1440-50-ST-DG-110-0045	Main Structure Tank Test Plan	Rev 1; Issued for IDE	11/11/02	12/16/02			NO		Rev 1			Hull General	NO		GVA Consultants
1440-50-ST-DG-110-0046	Tank Test Plan	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Hull General	NO		DSME
1440-50-ST-DG-110-0050	Main Structure Typical Details	Rev 2; Issued for IDE	4/29/02	10/31/02			NO		Rev 2			Hull General	NO		GVA Consultants
1440-50-ST-DG-110-0201	Main Structure	Rev 4; Issued for IDE	6/19/02	7/11/03			NO		Rev 4			Hull General	NO		GVA Consultants
1440-50-ST-DG-110-2001	General Notes	Rev 60; IFC	7/25/03	2/17/05			NO		Rev 60			Hull General	NO		DSME
1440-50-ST-DG-110-2002	General Notes	Rev 60; IFC	7/25/03	2/17/05			NO		Rev 60			Hull General	NO		DSME
1440-50-ST-DG-110-2005	External Anode Arrangement	Rev 60; IFC	9/21/03	2/17/05			NO		Rev 60			Hull General	NO		DSME
1440-50-ST-DG-110-2005	External Anode Arrangement	Rev 60; IFC	9/21/03	2/17/05			NO		Rev 60			Hull General	NO		DSME
1440-50-ST-DG-110-2005	External Anode Arrangement	Rev 60; IFC	9/21/03	2/17/05			NO		Rev 60			Hull General	NO		DSME
1440-50-ST-DG-110-2005	External Anode Arrangement	Rev 60; IFC	9/21/03	2/17/05			NO		Rev 60			Hull General	NO		DSME
1440-50-ST-DG-110-2010	External Anode Arrangement	Rev 60; IFC	9/21/03	2/17/05			NO		Rev 60			Hull General	NO		DSME
1440-50-ST-DG-110-2010	External Anode Arrangement	Rev 60; IFC	9/21/03	2/17/05			NO		Rev 60			Hull General	NO		DSME
1440-50-ST-DG-110-2010	External Anode Arrangement	Rev 60; IFC	9/21/03	2/17/05			NO		Rev 60			Hull General	NO		DSME
1440-50-ST-DG-110-2010	External Anode Arrangement	Rev 60; IFC	9/21/03	2/17/05			NO		Rev 60			Hull General	NO		DSME
1440-50-ST-DG-110-2015	External Anode Arrangement	Rev 60; IFC	9/21/03	2/17/05			NO		Rev 60			Hull General	NO		DSME
1440-50-ST-DG-110-2015	External Anode Arrangement	Rev 60; IFC	9/21/03	2/17/05			NO		Rev 60			Hull General	NO		DSME
1440-50-ST-DG-110-2015	External Anode Arrangement	Rev 60; IFC	9/21/03	2/17/05			NO		Rev 60			Hull General	NO		DSME
1440-50-ST-DG-110-2015	External Anode Arrangement	Rev 60; IFC	9/21/03	2/17/05			NO		Rev 60			Hull General	NO		DSME
1440-50-ST-DG-110-2020	External Anode Arrangement	Rev 60; As-Built	9/21/03	2/17/05			NO		Rev 60			Hull General	NO		DSME
1440-50-ST-DG-110-2020	External Anode Arrangement	Rev 60; As-Built	9/21/03	2/17/05			NO		Rev 60			Hull General	NO		DSME
1440-50-ST-DG-110-2020	External Anode Arrangement	Rev 60; IFC	9/21/03	2/17/05			NO		Rev 60			Hull General	NO		DSME
1440-50-ST-DG-110-2020	External Anode Arrangement	Rev 60; IFC	9/21/03	2/17/05			NO		Rev 60			Hull General	NO		DSME

MS8-4 (Amended) Todd Production Inventory (Book 03)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-50-ST-DG-110-2025, 26	External Anode Arrangement	Rev 60; IFC	9/21/03	2/17/05			NO		Rev 60			Hull General	NO		DSME
1440-50-ST-DG-110-2025, 26	External Anode Arrangement	Rev 60; IFC	9/21/03	2/17/05			NO		Rev 60			Hull General	NO		DSME
1440-50-ST-DG-110-2025, 26	External Anode Arrangement	Rev 60; IFC	9/21/03	2/17/05			NO		Rev 60			Hull General	NO		DSME
1440-50-ST-DG-110-2025, 26	External Anode Arrangement	Rev 60; IFC	9/21/03	2/17/05			NO		Rev 60			Hull General	NO		DSME
	Disposal Caisson	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
	Pontoon Bottom Port/Aft	Rev 60; As-Built					NO		Rev 60			Hull General	NO		DSME
	Pontoon Bottom Port/Aft	Rev 60; As-Built					NO		Rev 60			Hull General	NO		DSME
	Pontoon Bottom Port/Aft	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
	Pontoon Bottom Port/Fwd	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
	Pontoon Bottom Port/Fwd	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
	Pontoon Bottom Port/Fwd	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
	Pontoon Bottom Stbd/Fwd	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
	Pontoon Bottom Stbd/Fwd	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
	Pontoon Bottom Stbd/Fwd	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
	Pontoon Bottom Stbd/Aft	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
	Pontoon Bottom Stbd/Aft	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
	Pontoon Bottom Stbd/Aft	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
	Pontoon Side Shell Port/Aft	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
	Pontoon Bottom Stbd/Aft	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
	Pontoon Side Shell Port/Aft	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
	Pontoon WTB & WEB Frame Port/Aft	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
	Pontoon WTB & WEB Frame Port/Aft	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
	Pontoon WTB & WEB Frame Port/Aft	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
	Pontoon WTB & WEB Frame Port/Aft	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
	Pontoon WTB & WEB Frame Port/Aft	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
	Pontoon Side Shell Port/Fwd	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
	Pontoon Side Shell Port/Fwd	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
	Pontoon WTB & WEB Frame Port/Fwd	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
	Pontoon WTB & WEB Frame Port/Fwd	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
	Pontoon WTB & WEB Frame Port/Fwd	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
	Pontoon WTB & WEB Frame Port/Fwd	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
	Pontoon WTB & WEB Frame Port/Fwd	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
	Pontoon WTB & WEB Frame Port/Fwd	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
	Pontoon Side Shell Stbd/Fwd	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME

MS8-4 (Amended) Todd Production Inventory (Book 03)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
	Pontoon Side Shell Stbd/Fwd	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
	Pontoon WTB & WEB Frame Stbd/Fwd	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
	Pontoon WTB & WEB Frame Stbd/Fwd	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
	Pontoon WTB & WEB Frame Stbd/Fwd	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
	Pontoon WTB & WEB Frame Stbd/Fwd	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
	Pontoon WTB & WEB Frame Stbd/Fwd	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
	Pontoon WTB & WEB Frame Stbd/Fwd	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
	Pontoon Side Shell Stbd/Aft	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
	Pontoon WTB & WEB Frame Stbd/Aft	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
	Pontoon WTB & WEB Frame Stbd/Aft	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
	Pontoon WTB & WEB Frame Stbd/Aft	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
	Pontoon WTB & WEB Frame Stbd/Aft	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
	Pontoon WTB & WEB Frame Stbd/Aft	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
	Support for Riser Receptacles	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
	Support for Riser Receptacles	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
	Structural Details End Config	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
	Pontoon Column Stbd/Fwd	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
	Deck Box	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
1440-50-ST-DG-111-0001	Drawing Overview Plan	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-0002	Drawing Overview Plan	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-0020	Harbour Tug Brackets	Rev 60; IFC	12/22/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-0021	Harbour Tug Brackets	Rev 60; IFC	12/22/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-0022	Harbour Tug Brackets	Rev 60; IFC	12/22/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-0101	Details Around Cast Integrals	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-0105	Details Around Cast Integrals	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-0115	Details Around Cast Integrals	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-0120	Details Around Cast Integrals	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
	Support for Riser Receptacles						NO		Rev 60			Hull Pontoons	NO		DSME
	Support for Riser Receptacles						NO		Rev 60			Hull Pontoons	NO		DSME
	Structural Details End Config						NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-0202	Support for Riser Receptacles	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-0203	Support for Riser Receptacles	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
	Support for Riser Receptacles						NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-0205	Support for Riser Receptacles	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-0206	Support for Riser Receptacles	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-0207	Support for Riser Receptacles	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-0208	Support for Riser Receptacles	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-0209	Support for Riser Receptacles	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME

MS8-4 (Amended) Todd Production Inventory (Book 03)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-50-ST-DG-111-0210	Support for Riser Receptacles	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-0211	Support for Riser Receptacles	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-0212	Support for Riser Receptacles	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-0213	Support for Riser Receptacles	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-0214	Support for Riser Receptacles	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-0215	Support for Riser Receptacles	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-0216	Support for Riser Receptacles	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
	Funnel for Riser Receptacle						NO					Hull Pontoons	NO		DSME
	Diver rigging Point for MGTS						NO					Hull Pontoons	NO		DSME
	Padeye for MGTS Spool						NO					Hull Pontoons	NO		DSME
1440-50-ST-DG-111-1111	Stringer Plan 1920 & 3840	Rev 60; As-Built	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-1121	Pontoon Bottom at Base Line	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-1202	NE WT BHD 34560 Off CL	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-1221	Inner Side Shell	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-1318	Web Frame Elevations	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-1319	Web Frame Elevations	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-1330	Web Frame Elevations	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-1331	Funnel for Riser Receptacle	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-1352	Diver rigging Point for MGTS	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-1355	Padeye for MGTS Spool	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-2111	Stringer Plan 1920 & 3840	Rev 60; As-Built	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-2121	Pontoon Bottom at Base Line	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-2221	Inner Side Shell	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-2328	Web Frame Sections Pontoon	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-2329	Web Frame Sections Pontoon	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-2330	Web Frame Sections Pontoon	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-2331	Web Frame Sections Pontoon	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-2350	Main Structure	Rev 2; Issued for IDE	9/25/02	12/12/02			NO		Rev 2			Hull Pontoons	NO		GVA Consultants
1440-50-ST-DG-111-3101	Pontoon Deck 10880 Above	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3111	Stringer Plan 1920 & 3840	Rev 60; As-Built	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3112	Plan 5120/6400 & 8320 Above	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3115	Reinforcement for Fairleads	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3116	Reinforcement for Fairleads	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3121	Pontoon Bottom at Base Line	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3201	NW WT BHD & Pipe Tunnel	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3202	NW WT BHD & Pipe Tunnel	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3221	Inner Side Shell	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-2327	Web Frame Sections Pontoon	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3231	Outter Side Shell	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3301	Typical Section between Trans	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3311	Web Frame Elevations	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3312	Web Frame Elevations	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3313	Web Frame Elevations	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3314	Web Frame Elevations	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3315	Web Frame Elevations	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME

MS8-4 (Amended) Todd Production Inventory (Book 03)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-50-ST-DG-111-3316	Web Frame Elevations	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3317	Web Frame Elevations	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3318	Web Frame Elevations	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3318	Web Frame Elevations	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3319	Web Frame Elevations	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3320	Web Frame Elevations	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3321	Web Frame Elevations	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3321	Web Frame Elevations	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3322	Web Frame Elevations	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3322	Web Frame Elevations	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3323	Web Frame Elevations	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3323	Web Frame Elevations	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3325	Web Frame Sections Pontoon	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3326	Web Frame Sections Pontoon	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3327	Web Frame Sections Pontoon	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3328	Web Frame Sections Pontoon	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3329	Web Frame Sections Pontoon	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3330	Web Frame Sections Pontoon	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3331	Web Frame Sections Pontoon	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3332	Web Frame Sections Pontoon	Rev 60; As-Built	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3333	Web Frame Sections Pontoon	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3334	Web Frame Sections Pontoon	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3334	Web Frame Sections Pontoon	Rev 60; As-Built	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3335	Web Frame Sections Pontoon	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3335	Web Frame Sections Pontoon	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3336	Web Frame Sections Pontoon	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3336	Web Frame Sections Pontoon	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3337	Web Frame Sections Pontoon	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3337	Web Frame Sections Pontoon	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3340	WT Bulkheads	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3341	WT Bulkheads	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3342	WT Bulkheads	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3343	WT Bulkheads	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3345	WT Bulkheads	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3346	WT Bulkheads	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3346	WT Bulkheads	Rev 60; As-Built	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3350	WT Bulkheads	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3351	WT Bulkheads	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3352	WT Bulkheads	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3355	WT Bulkheads	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3356	WT Bulkheads	Rev 60; As-Built	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3361	Trunk Bulkheads	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3371	Chain Lockers	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-4101	Pontoon Deck 10880 Above	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-4101	Pontoon Deck 10880 Above	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME

MS8-4 (Amended) Todd Production Inventory (Book 03)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-50-ST-DG-111-4111	Pontoon Deck 10880 Above	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-4112	Plan 5120/6400 & 8320 Above	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-4115	Reinforcement for Fairleads	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-4116	Reinforcement for Fairleads	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-4121	Pontoon Bottom at Base Line	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-4201	S/W WT BHD & Pipe Tunnel	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-4202	S/W WT BHD & Pipe Tunnel	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-4221	Inner Side Shell	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-4231	Inner Side Shell	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-4301	Typical Section between Trans	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-4311	Web Frame Elevations	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-4312	Web Frame Elevations	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-4313	Web Frame Elevations	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-4314	Web Frame Elevations	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-4315	Web Frame Elevations	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-4316	Web Frame Elevations	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-4317	Web Frame Elevations	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-4319	Web Frame Elevations	Rev 60; As-Built	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-4320	Web Frame Elevations	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-4325	Web Frame Sections Pontoon	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-4326	Web Frame Sections Pontoon	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-4327	Web Frame Sections Pontoon	Rev 60; As-Built	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-4328	Web Frame Sections Pontoon	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-4329	Web Frame Sections Pontoon	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-4330	Web Frame Sections Pontoon	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-4331	Web Frame Sections Pontoon	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-4332	Web Frame Sections Pontoon	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-4333	Web Frame Sections Pontoon	Rev 60; As-Built	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-4340	WT Bulkheads	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-4341	WT Bulkheads	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-4342	WT Bulkheads	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-4345	WT Bulkheads	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-4346	WT Bulkheads	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-4350	WT Bulkheads	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-4351	WT Bulkheads	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-4352	WT Bulkheads	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-4353	WT Bulkheads	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-4355	WT Bulkheads	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-4356	WT Bulkheads	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-4371	Chain Lockers	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-113-0001	Overview Plann Upper Hull	Rev 60; As-Built	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0002	Overview Plann Upper Hull	Rev 60; As-Built	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0011	Typical Details Upper Hull	Rev 60; As-Built	8/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME

MS8-4 (Amended) Todd Production Inventory (Book 03)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-50-ST-DG-113-0012	Typical Details Upper Hull	Rev 60; IFC	1/9/04	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0012	Typical Details Upper Hull	Rev 60; IFC	1/9/04	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0012	Typical Details Upper Hull	Rev 60; IFC	1/9/04	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0101	Details Around Cast Integrals	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0102	Details Around Cast Integrals	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0103	Details Around Cast Integrals	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0104	Details Around Cast Integrals	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0105	Details Around Cast Integrals	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0106	Details Around Cast Integrals	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0107	Details Around Cast Integrals	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0108	Details Around Cast Integrals	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0109	Details Around Cast Integrals	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0110	Details Around Cast Integrals	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0111	Details Around Cast Integrals	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0112	Details Around Cast Integrals	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0116	Details Around Cast Integrals	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0117	Details Around Cast Integrals	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0118	Details Around Cast Integrals	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0119	Details Around Cast Integrals	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0120	Details Around Cast Integrals	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0121	Details Around Cast Integrals	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0122	Details Around Cast Integrals	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0123	Details Around Cast Integrals	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0128	Details Around Cast Integrals	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0129	Details Around Cast Integrals	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0130	Details Around Cast Integrals	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0131	Details Around Cast Integrals	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0132	Details Around Cast Integrals	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0133	Details Around Cast Integrals	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0134	Details Around Cast Integrals	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0135	Details Around Cast Integrals	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0139	Details Around Cast Integrals	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0140	Details Around Cast Integrals	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0301	Reinforcement for Umbilicals	Rev 60; IFC	9/22/03	3/28/04			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0302	Reinforcement for Umbilicals	Rev 60; IFC	9/22/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0303	Reinforcement for Umbilicals	Rev 60; IFC	9/22/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0304	Reinforcement for Umbilicals	Rev 60; IFC	9/22/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0305	Reinforcement for Umbilicals	Rev 60; IFC	9/22/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0306	Reinforcement for Umbilicals	Rev 60; IFC	9/22/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0307	Reinforcement for Umbilicals	Rev 60; IFC	9/22/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0310	Reinforcement for Umbilicals	Rev 60; IFC	9/22/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
	Reinforcement for Umbilicals						NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0312	Reinforcement for Umbilicals	Rev 60; IFC	9/22/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0314	Reinforcement for Umbilicals	Rev 60; IFC	9/22/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0315	Reinforcement for Umbilicals	Rev 60; IFC	9/22/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0601	Lifeboat Platform Plan	Rev 60; IFC		3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-1101	Plan Upper Hull Main Deck	Rev 60; As-Built	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-1105	Reinforcement for Mooring Chain	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME

MS8-4 (Amended) Todd Production Inventory (Book 03)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-50-ST-DG-113-1107	Reinforcement for Mooring Chain	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-1111	Tween Deck Plan	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-1121	Plan Upper Hull Lower Deck	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-1131	Plan Upper Hull Box Bottom	Rev 60; As-Built	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-1201	Longitudinal Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-1202	Longitudinal Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-1203	Longitudinal Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-1204	Longitudinal Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-1205	Longitudinal Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-1206	Longitudinal Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-1207	Longitudinal Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-1208	Longitudinal Sections Upper	Rev 60; As-Built	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-1209	Longitudinal Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-1301	Transverse Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-1302	Transverse Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-1303	Transverse Sections Upper	Rev 60; IFC	9/22/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-1304	Transverse Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-1305	Transverse Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-1306	Transverse Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-1307	Transverse Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-1308	Transverse Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-2101	Plan Upper Hull Main Deck	Rev 60; As-Built	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-2101	Plan Upper Hull Main Deck	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-2101	Plan Upper Hull Main Deck	Rev 60; As-Built	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-2105	Reinforcement for Mooring Chain	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-2107	Reinforcement for Mooring Chain	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-2111	Plan Upper Hull Tween Deck	Rev 60; As-Built	9/9/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-2121	Plan Upper Hull Lower Deck	Rev 60; IFC	9/9/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-2131	Plan Upper Hull Box Bottom	Rev 60; IFC	9/9/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-2201	Longitudinal Sections Upper	Rev 60; As-Built	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-2202	Longitudinal Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-2203	Longitudinal Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-2204	Longitudinal Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-2205	Longitudinal Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-2206	Longitudinal Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-2207	Longitudinal Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-2208	Longitudinal Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-2209	Longitudinal Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-2301	Transverse Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-2302	Transverse Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-2303	Transverse Sections Upper	Rev 60; As-Built	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-2304	Transverse Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME

MS8-4 (Amended) Todd Production Inventory (Book 03)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-50-ST-DG-113-2305	Transverse Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-2306	Transverse Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-2307	Transverse Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-2308	Transverse Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-2309	Transverse Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-2501	Deck House Plan	Rev 60; As-Built	1/20/04	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-2502	Deck House Plan	Rev 60; IFC	1/20/04	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-2503	Deck House Longit Sections	Rev 60; As-Built	1/20/04	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-2503	Deck House Longit Sections	Rev 60; IFC	1/20/04	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-2503	Deck House Longit Sections	Rev 60; IFC	1/20/04	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-2504	Deck House Transv Sections	Rev 60; As-Built	1/20/04	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-2504	Deck House Transv Sections	Rev 60; IFC	1/20/04	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-2504	Deck House Transv Sections	Rev 60; As-Built	1/20/04	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-1301	Plan Upper Hull Main Deck	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-1305	Reinforcement for Mooring Chain	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-1306	Reinforcement for Mooring Chain	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-1307	Reinforcement for Mooring Chain	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-3111	Plan Upper Hull Tween Deck	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-3121	Plan Upper Hull Lower Deck	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-3131	Plan Upper Hull Box Bottom	Rev 60; As-Built	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-3201	Longitudinal Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-3202	Longitudinal Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-3203	Longitudinal Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-3204	Longitudinal Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-3205	Longitudinal Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-3206	Longitudinal Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-3207	Longitudinal Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-3208	Longitudinal Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-3209	Longitudinal Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-3301	Transverse Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-3302	Transverse Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-3303	Transverse Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-3304	Transverse Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-3305	Transverse Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-3306	Transverse Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-3307	Transverse Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-3308	Transverse Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-3551	Liftboat Platform Plan & Sections	Rev 60; IFC	10/1/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-3552	Liftboat Platform Plan & Sections	Rev 60; IFC	10/1/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-3552	Liftboat Platform Plan & Sections	Rev 60; IFC	10/1/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-4101	Plan Upper Hull Main Deck	Rev 60; As-Built	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-4105	Reinforcement for Mooring Chain	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-4106	Reinforcement for Mooring Chain	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME

MS8-4 (Amended) Todd Production Inventory (Book 03)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-50-ST-DG-113-4107	Reinforcement for Mooring Chain	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-4111	Plan Upper Hull	Rev 60; As-Built	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-4121	Plan Upper Hull	Rev 60; As-Built	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-4131	Plan Upper Hull	Rev 60; As-Built	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-4201	Longitudinal Sections Upper	Rev 60; As-Built	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-4202	Longitudinal Sections Upper	Rev 60; As-Built	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-4203	Longitudinal Sections Upper	Rev 60; As-Built	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-4204	Longitudinal Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-4205	Longitudinal Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-4206	Longitudinal Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-4207	Longitudinal Sections Upper	Rev 60; As-Built	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-4208	Longitudinal Sections Upper	Rev 60; As-Built	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-4209	Longitudinal Sections Upper	Rev 60; As-Built	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-4301	Transverse Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-4302	Transverse Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-4303	Transverse Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-4304	Transverse Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-4306	Transverse Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-4307	Transverse Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-4308	Transverse Sections Upper	Rev 60; IFC	9/19/03	3/18/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-4309	Transverse Sections Upper	Rev 60; IFC	9/19/03	3/18/05			NO		Rev 60			Upper Hull	NO		DSME

MS8-5: Todd Production Inventory (Book 04)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engr Contractor	
1440-50-MO-DG-145-0008	Manhole Cover Arrangement for Pump Room Deck	Rev 60, IFC	7/1/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	
1440-50-MO-DG-145-0008	Manhole Cover Arrangement for Pump Room Deck	Rev 60, IFC	7/1/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	
1440-50-MO-DG-145-0008	Manhole Cover Arrangement for Pump Room Deck	Rev 60, IFC	7/1/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	
1440-50-MO-DG-145-0008	Manhole Cover Arrangement for Pump Room Deck	Rev 60, IFC	7/1/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	
1440-50-MO-DG-145-0008	Manhole Cover Arrangement for Pump Room Deck	Rev 60, IFC	7/1/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	
1440-50-MO-DG-145-0008	Manhole Cover Arrangement for Pump Room Deck	Rev 60, IFC	7/1/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	
1440-50-MO-DG-145-0007	Manhole Cover Arrangement for Pontoon Deck	Rev 60, IFC	7/1/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	
1440-50-MO-DG-145-0007	Manhole Cover Arrangement for Pontoon Deck	Rev 60, IFC	7/1/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	
1440-50-MO-DG-145-0007	Manhole Cover Arrangement for Pontoon Deck	Rev 60, IFC	7/1/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	
1440-50-MO-DG-145-0007	Manhole Cover Arrangement for Pontoon Deck	Rev 60, IFC	7/1/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	
1440-50-MO-DG-145-0006	Manhole Cover Arrangement for Column	Rev 60, IFC	7/1/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	
1440-50-MO-DG-145-0006/7	Manhole Cover Arrangement for Column	Rev 60, IFC	7/1/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	
1440-50-MO-DG-145-0005	Manhole Cover Arrangement for Column	Rev 60, IFC	7/1/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	
1440-50-MO-DG-145-0005	Manhole Cover Arreangement for Box Bottom	Rev 60, IFC	7/11/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	The DSME drawing number is different from the one above (Same Number; different drawing title).
1440-50-MO-DG-145-0004	Manhole Cover Arrangement for Lower Deck	Rev 60, IFC	7/11/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	
1440-50-MO-DG-145-0004	Manhole Cover Arrangement for Lower Deck	Rev 60, IFC	7/11/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	
1440-50-MO-DG-145-0004	Manhole Cover Arrangement for Lower Deck	Rev 60, IFC	7/11/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	
1440-50-MO-DG-145-0004	Manhole Cover Arrangement for Lower Deck	Rev 60, IFC	7/11/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	
1440-50-MO-DG-145-0003	Manhole Cover Arrangement for Tween Deck	Rev 60, IFC	7/11/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	
1440-50-MO-DG-145-0003	Manhole Cover Arrangement for Tween Deck	Rev 60, IFC	7/11/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	
1440-50-MO-DG-145-0003	Manhole Cover Arrangement for Tween Deck	Rev 60, IFC	7/11/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	
1440-50-MO-DG-145-0003	Manhole Cover Arrangement for Tween Deck	Rev 60, IFC	7/11/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	
1440-50-MO-DG-145-0002	Manhole Cover Arrangement for Main Deck and Deckhouse	Rev 60, IFC	7/11/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	
1440-50-MO-DG-145-0002	Manhole Cover Arrangement for Main Deck and Deckhouse	Rev 60, IFC	7/11/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	
	Manhole Cover Detail (Pontoon, Column Area)	Rev 60, IFC	7/1/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	
	Manhole Cover Detail (Pontoon, Column Area)	Rev 60, IFC	7/1/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	
	Manhole Cover Detail (Pontoon, Column Area)	Rev 60, IFC	7/1/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	
	Manhole Cover Detail (Pontoon, Column Area)	Rev 60, IFC	7/1/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	
	Manhole Cover Detail (Pontoon, Column Area)	Rev 60, IFC	7/1/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	
	Manhole Cover Detail (Pontoon, Column Area)	Rev 60, IFC	7/1/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	
1440-50-MO-DG-145-0008	Hatch Arragement - Lower Hull	Rev 60, IFC	6/18/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	Repeated DWG number, but with different origination date.
1440-50-MO-DG-145-0008	Hatch Arragement - Lower Hull	Rev 60, IFC	6/18/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	Repeated DWG number, but with different origination date.
1440-50-MO-DG-145-0008	Hatch Arragement - Lower Hull	Rev 60, IFC	6/18/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	Repeated DWG number, but with different origination date.
1440-50-MO-DG-145-0008	Hatch Arragement - Lower Hull	Rev 60, IFC	6/18/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	Repeated DWG number, but with different origination date.
1440-50-MO-DG-145-0008	Hatch Arragement - Lower Hull	Rev 60, IFC	6/18/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	Repeated DWG number, but with different origination date.
1440-50-MO-DG-145-0004	Hatch Arrangement - Lower Deck	Rev 60, IFC	8/15/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	Repeated DWG number, but with different origination date.
1440-50-MO-DG-145-0004	Hatch Arrangement - Lower Deck	Rev 60, IFC	8/15/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	Repeated DWG number, but with different origination date.
1440-50-MO-DG-145-0004	Hatch Arrangement - Lower Deck	Rev 60, IFC	8/15/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	Repeated DWG number, but with different origination date.

MS8-5: Todd Production Inventory (Book 04)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engr Contractor	
1440-50-MO-DG-145-0004	Hatch Arrangement - Lower Deck	Rev 60, IFC	8/15/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	Repeated DWG number, but with different origination date.
1440-50-MO-DG-145-0004	Hatch Arrangement - Lower Deck	Rev 60, IFC	8/15/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	Repeated DWG number, but with different origination date.
1440-50-MO-DG-145-0004	Hatch Arrangement - Lower Deck	Rev 60, IFC	8/15/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	Repeated DWG number, but with different origination date.
1440-50-MO-DG-145-0002	Hatch Arrangement - Main Deck	Rev 60, IFC	8/15/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	Repeated DWG number, but with different origination date.
1440-50-MO-DG-145-0002	Hatch Arrangement - Main Deck	Rev 60, IFC	8/15/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	Repeated DWG number, but with different origination date.
1440-50-MO-DG-145-0001	Hatch Arrangement - Deckhouse	Rev 60, IFC	8/15/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	Repeated DWG number, but with different origination date.
1440-50-MO-DG-145-0001	Hatch Arrangement - Deckhouse	Rev 60, IFC	8/15/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	Repeated DWG number, but with different origination date.
1440-50-MO-DG-145-0001	Hatch Arrangement - Deckhouse	Rev 60, IFC	8/15/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	Repeated DWG number, but with different origination date.
1440-50-MO-DG-145-0001	Hatch Arrangement - Deckhouse	Rev 60, IFC	8/15/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	Repeated DWG number, but with different origination date.
	Hatch Detail - Upper Hull	Rev 60, IFC					NO					Access Hatchet and Manhole Cover	NO		DSME	
1440-50-MO-DG-234-0020	Towing System Bracket & Bollards Arranegement Top View						NO		Rev 60			Towing System	NO		DSME	The 1st, 3rd and 4th sheet of this drawing are missing, therefore no revision date information was available.
1440-50-MO-DG-234-0020	Towing System Bracket & Bollards Arranegement Top View						NO		Rev 60			Towing System	NO		DSME	The 1st, 3rd and 4th sheet of this drawing are missing, therefore no revision date information was available.
1440-50-MO-DG-234-0021	Towing System Brackets & Bollards Arranegement Side View						NO		Rev 60			Towing System	NO		DSME	The first sheet of this drawing is missing, therefore no revision date data was available.
1440-50-MO-DG-234-0021	Towing System Brackets & Bollards Arranegement Side View						NO		Rev 60			Towing System	NO		DSME	The first sheet of this drawing is missing, therefore no revision date data was available.
1440-50-MO-DG-234-0022	Towing System Brackets & Bollards Arrangement Summary Table						NO		Rev 60			Towing System	NO		DSME	The first sheet of this drawing is missing, therefore no revision date data was available.
1440-50-MO-DG-234-0023	Towing System Brackets & Bollards Arranegemtn Working Angles						NO		Rev 60			Towing System	NO		DSME	The first sheet of this drawing is missing, therefore no revision date data was available.
	Towing System Single Cross Bollard & Tug Lug Detail						NO		Rev 60			Towing System	NO		DSME	The first sheet of this drawing is missing, therefore no revision date data was available. No BP DWG number was noted.
	Towing System Single Cross Bollard & Tug Lug Detail						NO		Rev 60			Towing System	NO		DSME	The first sheet of this drawing is missing, therefore no revision date data was available. No BP DWG number was noted.
	Towing System Single Cross Bollard & Tug Lug Detail						NO		Rev 60			Towing System	NO		DSME	The first sheet of this drawing is missing, therefore no revision date data was available. No BP DWG number was noted.
	Towing System Push Boat Point Detail						NO		Rev 60			Towing System	NO		DSME	The first sheet of this drawing is missing, therefore no revision date data was available. No BP DWG number was noted.
	Towing System Push Boat Point Detail						NO		Rev 60			Towing System	NO		DSME	The first sheet of this drawing is missing, therefore no revision date data was available. No BP DWG number was noted.
	Towing System Push Boat Point Detail						NO		Rev 60			Towing System	NO		DSME	The first sheet of this drawing is missing, therefore no revision date data was available. No BP DWG number was noted.
	Towing System Push Boat Point Detail						NO		Rev 60			Towing System	NO		DSME	The first sheet of this drawing is missing, therefore no revision date data was available. No BP DWG number was noted.
	Tow System Lashing Bars for Tow Lines						NO		Rev 60			Towing System	NO		DSME	The first sheet of this drawing is missing, therefore no revision date data was available. No BP DWG number was noted.
	Tow System Lashing Bars for Tow Lines						NO		Rev 60			Towing System	NO		DSME	The first sheet of this drawing is missing, therefore no revision date data was available. No BP DWG number was noted.
	Tow System Lashing Bars for Tow Lines						NO		Rev 60			Towing System	NO		DSME	The first sheet of this drawing is missing, therefore no revision date data was available. No BP DWG number was noted.
	Tow System Lashing Bars for Tow Lines						NO		Rev 60			Towing System	NO		DSME	The first sheet of this drawing is missing, therefore no revision date data was available. No BP DWG number was noted.
	Tow System Lashing Bars for Tow Lines						NO		Rev 60			Towing System	NO		DSME	The first sheet of this drawing is missing, therefore no revision date data was available. No BP DWG number was noted.
	Tow System Lashing Bars for Tow Lines						NO		Rev 60			Towing System	NO		DSME	The first sheet of this drawing is missing, therefore no revision date data was available. No BP DWG number was noted.
	Tow System Lashing Bars for Tow Lines						NO		Rev 60			Towing System	NO		DSME	The first sheet of this drawing is missing, therefore no revision date data was available. No BP DWG number was noted.
	Tow System Lashing Bars for Tow Lines						NO		Rev 60			Towing System	NO		DSME	The first sheet of this drawing is missing, therefore no revision date data was available. No BP DWG number was noted.
	Tow System Lashing Bars for Tow Lines						NO		Rev 60			Towing System	NO		DSME	The first sheet of this drawing is missing, therefore no revision date data was available. No BP DWG number was noted.
	Tow System Lashing Bars for Tow Lines						NO		Rev 60			Towing System	NO		DSME	The first sheet of this drawing is missing, therefore no revision date data was available. No BP DWG number was noted.
	Tow System Lashing Bars for Tow Lines						NO		Rev 60			Towing System	NO		DSME	The first sheet of this drawing is missing, therefore no revision date data was available. No BP DWG number was noted.
	Tow System Lashing Bars for Tow Lines						NO		Rev 60			Towing System	NO		DSME	The first sheet of this drawing is missing, therefore no revision date data was available. No BP DWG number was noted.

MS8-5: Todd Production Inventory (Book 04)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engr Contractor	
	Tow System Lashing Bars for Tow Lines						NO		Rev 60			Towing System	NO		DSME	The first sheet of this drawing is missing, therefore no revision date data was available. No BP DWG number was noted.
	Tow System Lashing Bars for Tow Lines						NO		Rev 60			Towing System	NO		DSME	The first sheet of this drawing is missing, therefore no revision date data was available. No BP DWG number was noted.
	Tow System Lashing Bars for Tow Lines						NO		Rev 60			Towing System	NO		DSME	The first sheet of this drawing is missing, therefore no revision date data was available. No BP DWG number was noted.
	Tow System Lashing Bars for Tow Lines						NO		Rev 60			Towing System	NO		DSME	The first sheet of this drawing is missing, therefore no revision date data was available. No BP DWG number was noted.
	Tow System Lashing Bars for Tow Lines						NO		Rev 60			Towing System	NO		DSME	The first sheet of this drawing is missing, therefore no revision date data was available. No BP DWG number was noted.
	Tow System Lashing Bars for Tow Lines						NO		Rev 60			Towing System	NO		DSME	The first sheet of this drawing is missing, therefore no revision date data was available. No BP DWG number was noted.
	Tow System Lashing Bars for Tow Lines						NO		Rev 60			Towing System	NO		DSME	The first sheet of this drawing is missing, therefore no revision date data was available. No BP DWG number was noted.
	Tow System Lashing Bars for Tow Lines						NO		Rev 60			Towing System	NO		DSME	The first sheet of this drawing is missing, therefore no revision date data was available. No BP DWG number was noted.
	Tow System Lashing Bars for Tow Lines						NO		Rev 60			Towing System	NO		DSME	The first sheet of this drawing is missing, therefore no revision date data was available. No BP DWG number was noted.
	Tow System Lashing Bars for Tow Lines						NO		Rev 60			Towing System	NO		DSME	The first sheet of this drawing is missing, therefore no revision date data was available. No BP DWG number was noted.
	Temporary Access and Traffic Facilities for Dry Tow	Rev 60, IFC	3/9/04	3/31/05			NO		Rev 60			Towing System	NO		DSME	No BP DWG number was provided.
	Temporary Access and Traffic Facilities for Dry Tow	Rev 60, IFC	3/9/04	3/31/05			NO		Rev 60			Towing System	NO		DSME	No BP DWG number was provided.
	Temporary Access and Traffic Facilities for Dry Tow	Rev 60, IFC	3/9/04	3/31/05			NO		Rev 60			Towing System	NO		DSME	No BP DWG number was provided.
	Temporary Access and Traffic Facilities for Dry Tow	Rev 60, IFC	3/9/04	3/31/05			NO		Rev 60			Towing System	NO		DSME	No BP DWG number was provided.
	Temporary Access and Traffic Facilities for Dry Tow	Rev 60, IFC	3/9/04	3/31/05			NO		Rev 60			Towing System	NO		DSME	No BP DWG number was provided.
	Mechnical Equipment Arrangement SCR Hang Off	Rev 60, IFC	9/19/03	3/31/05			NO		Rev 60			SCR and Umbilical Pull In Layout	NO		DSME	
1440-50-GE-DG-030-0104	Mechnical Equipment Arrangement SCR Hang Off	Rev 60	9/19/03	3/31/05			NO		Rev 60			SCR and Umbilical Pull In Layout	NO		DSME	
1440-50-MU-DG-830-5020	Mechnical Equipment Arrangement SCR Hang Off	Rev 60					NO		Rev 60			SCR and Umbilical Pull In Layout	NO		DSME	This drawing has a different drawing number but appears to be listed as the third page of the one above, but ref's trhe same name.
1440-50-MU-DG-830-5022	Mechnical Equipment Arrangement SCR Hang Off	Rev 60					NO		Rev 60			SCR and Umbilical Pull In Layout	NO		DSME	Similar situation as above, same name with diff drawing number.
1440-50-MU-DG-830-5023, 5024	Mechnical Equipment Arrangement SCR Hang Off	Rev 60					NO		Rev 60			SCR and Umbilical Pull In Layout	NO		DSME	Similar situation as above, same name with diff drawing number.
1440-50-MU-DG-830- 5025	Mechnical Equipment Arrangement SCR Hang Off	Rev 60					NO		Rev 60			SCR and Umbilical Pull In Layout	NO		DSME	Similar situation as above, same name with diff drawing number.
	Funnel For Riser Receptacle	Rev 60					NO		Rev 60			SCR and Umbilical Pull In Layout			DSME	
	Diver Rigging Pt for MGTS Spool Piece Installation	Rev 60					NO		Rev 60			SCR and Umbilical Pull In Layout			DSME	
	Padeye For MGTS Spool Piece Installation	Rev 60					NO		Rev 60			SCR and Umbilical Pull In Layout			DSME	
1440-50-MU-DG-830-5021	Mechanical Equipment Arrangement - SCR & Umbilical Pull	Rev 60					NO		Rev 60			SCR and Umbilical Pull In Layout	NO		DSME	First drawing missing, no date data available. No BP DWG number was provided.
1440-50-MU-DG-830-5021	Mechanical Equipment Arrangement - SCR & Umbilical Pull	Rev 60					NO		Rev 60			SCR and Umbilical Pull In Layout	NO		DSME	First drawing missing, no date data available. No BP DWG number was provided.
1440-50-MU-DG-830-5021	Mechanical Equipment Arrangement - SCR & Umbilical Pull	Rev 60					NO		Rev 60			SCR and Umbilical Pull In Layout	NO		DSME	First drawing missing, no date data available. No BP DWG number was provided.
1440-50-MU-DG-830-5021	Mechanical Equipment Arrangement - SCR & Umbilical Pull	Rev 60					NO		Rev 60			SCR and Umbilical Pull In Layout	NO		DSME	First drawing missing, no date data available. No BP DWG number was provided.
1440-50-MU-DG-830-5021	Mechanical Equipment Arrangement - SCR & Umbilical Pull	Rev 60					NO		Rev 60			SCR and Umbilical Pull In Layout	NO		DSME	First drawing missing, no date data available. No BP DWG number was provided.
1440-50-MU-DG-830-5020	Mechnical Equipment Arrangement SCR Hang Off	Rev 60					NO		Rev 60			SCR and Umbilical Pull In Layout	NO		DSME	This drawing has a different drawing number but appears to be listed as the third page of the one above, but ref's trhe same name.
1440-50-MU-DG-830-5022	Mechnical Equipment Arrangement SCR Hang Off	Rev 60					NO		Rev 60			SCR and Umbilical Pull In Layout	NO		DSME	Similar situation as above, same name with diff drawing number.
1440-50-MU-DG-830- 5025	Mechnical Equipment Arrangement SCR Hang Off	Rev 60					NO		Rev 60			SCR and Umbilical Pull In Layout	NO		DSME	Similar situation as above, same name with diff drawing number.
	Mechanical Equipment Arrangement - SCR & Umbilical Pull	Rev 60					NO		Rev 60			SCR and Umbilical Pull In Layout	NO		DSME	First drawing missing, no date data available. No BP DWG number was provided.
1440-50-MO-DG-143-0005	Arr't of Fire Door for Upper Hull (Main Deck)	Rev 60, IFC	9/20/03	3/31/05			NO		Rev 60			Steel Door	NO		DSME	
1440-50-MO-DG-143-0006	Arr't of Fire Door for Upper Hull (Tween Deck)	Rev 60, IFC	9/20/03	3/31/05			NO		Rev 60			Steel Door	NO		DSME	
1440-50-MO-DG-143-0007	Arr't of Fire Door for Upper Deck (Lower Deck)	Rev 60, IFC	9/20/03	3/31/05			NO		Rev 60			Steel Door	NO		DSME	
1440-50-MO-DG-143-0001	Watertight Sliding Door List						NO		Rev 60			Steel Door	NO		DSME	First drawing missing, no date data
1440-50-MU-DG-143-0008	Watertight Sliding Door List - Lower Hull	Rev 60, IFC	10/9/03	3/31/05			NO		Rev 60			Steel Door	NO		DSME	
1440-50-MU-DG-143-0008	Watertight Sliding Door List - Lower Hull	Rev 60, IFC	10/9/03	3/31/05			NO		Rev 60			Steel Door	NO		DSME	

MS8-5: Todd Production Inventory (Book 04)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engr Contractor											
1440-50-MU-DG-143-0008	Watertight Sliding Door List - Lower Hull	Rev 60, IFC	10/9/03	3/31/05			NO		Rev 60			Steel Door	NO		DSME											
1440-50-MU-DG-143-0008	Watertight Sliding Door List - Lower Hull	Rev 60, IFC	10/9/03	3/31/05			NO		Rev 60			Steel Door	NO		DSME											
1440-50-MU-DG-143-0008	Watertight Sliding Door List - Lower Hull	Rev 60, IFC	10/9/03	3/31/05			NO		Rev 60			Steel Door	NO		DSME											
1440-50-MO-DG-261-0001	Lifeboats Systems (Life rafts, Davits, Rescue Boats) North Lifeboat Station	Rev 10, BP Final Handover		4/5/07			NO		Rev 10			Lifeboats	NO		DSME											
1440-50-MO-DG-261-0001	South Lifeboat Station	Rev 10, BP Final Handover		4/5/07			NO		Rev 10			Lifeboats	NO		DSME											
1440-50-MO-DG-261-0001	Fast Rescue Boat	Rev 10, BP Final Handover		4/5/07			NO		Rev 10			Lifeboats	NO		DSME											
1440-50-MO-DG-261-0001	Lifeboat Station Sections	Rev 10, BP Final Handover		4/5/07			NO		Rev 10			Lifeboats	NO		DSME											
1440-50-MO-DG-261-0001	Davit Sections	Rev 10, BP Final Handover		4/5/07			NO		Rev 10			Lifeboats	NO		DSME											
1440-50-MO-DG-261-0001	Life Raft Davit Foundation Details	Rev 10, BP Final Handover		4/5/07			NO		Rev 10			Lifeboats	NO		DSME											
1440-20-ST-DG-2482-002	Module Installation Bumper and Guide	Rev 60, As-Built	6/1/04	3/28/05			NO		Rev 60			Module Installation Guides	NO		DSME	Note that this drawing has a note under the title box with a ref. to "AS BUILT"										
1440-20-ST-DG-2428-003	Module Installation Bumper and Guide	Rev 60, IFC	6/1/04	3/28/05			NO		Rev 60			Module Installation Guides	NO		DSME											
1440-20-ST-DG-3428-001	Module Installation Bumper and Guide	Rev 60, IFC	6/1/04	3/28/05			NO		Rev 60			Module Installation Guides	NO		DSME											
1440-20-ST-DG-3428-002	Module Installation Bumper and Guide	Rev 60, IFC	6/1/04	3/28/05			NO		Rev 60			Module Installation Guides	NO		DSME											
1440-20-ST-DG-3482-003	Module Installation Bumper and Guide	Rev 60, IFC	6/1/04	3/28/05			NO		Rev 60			Module Installation Guides	NO		DSME											
1440-20-ST-DG-1482-002	Module Installation Bumper and Guide	Rev 60, IFC	6/1/04	3/28/05			NO		Rev 60			Module Installation Guides	NO		DSME											
1440-20-ST-DG-1482-003	Module Installation Bumper and Guide	Rev 60, IFC	6/1/04	3/28/05			NO		Rev 60			Module Installation Guides	NO		DSME											
1440-20-ST-DG-1482-004	Module Installation Bumper and Guide	Rev 60, IFC	6/1/04	3/28/05			NO		Rev 60			Module Installation Guides	NO		DSME											
1440-50-MO-DG-231-0001	Mooring System Arrangement (Winch Arrangement - Tween Deck)						NO		Rev 60			Mooring	NO		DSME											
1440-50-MO-DG-231-0002	Mooring System Arrangement (Winch Arrangement (Lower Deck)						NO		Rev 60			Mooring	NO		DSME											
1440-50-MO-DG-231-0003	Mooring System Arrangement (Fairland Arrangement)						NO		Rev 60			Mooring	NO		DSME											
1440-50-MO-DG-231-0004	Mooring System Arrangement (Side View Mooring System)						NO		Rev 60			Mooring	NO		DSME											
1440-50-MO-DG-231-0005	Mooring System Arrangement (Equipment Location)						NO		Rev 60			Mooring	NO		DSME											
1440-50-MO-DG-231-0006	Mooring System Arrangement (Fairing Lashing / Hang-Off)						NO		Rev 60			Mooring	NO		DSME											
	Mooring System Arrangement (Runway H-Beam)						NO		Rev 60			Mooring	NO		DSME											
1440-50-MO-DG-231-0007	Mooring System Arrangement (Wooden Protection)						NO		Rev 60			Mooring	NO		DSME											
1440-50-MO-DG-231-0007	Mooring System Arrangement (Wooden Protection)						NO		Rev 60			Mooring	NO		DSME											
	Mooring System Arrangement (Lug & Chain Defelctor)						NO		Rev 60			Mooring	NO		DSME											
	Mooring System Arrangement (Lug & Chain Defelctor)						NO		Rev 60			Mooring	NO		DSME											
	Mooring System Arrangement (Messenger Chain Handling)						NO		Rev 60			Mooring	NO		DSME											
	Mooring System Arrangement (Messenger Chain Handling)						NO		Rev 60			Mooring	NO		DSME											
	Mooring System Arrangement (Messenger Chain Handling)						NO		Rev 60			Mooring	NO		DSME											
	Mooring System Arrangement (Messenger Chain Handling)						NO		Rev 60			Mooring	NO		DSME											
	Mooring System Arrangement (Forerunner Hang Off for Fairland)						NO		Rev 60			Mooring	NO		DSME											
	Mooring System Arrangement (Forerunner Hang Off for Fairland)						NO		Rev 60			Mooring	NO		DSME											
	Mooring System Arrangement (Forerunner Hang Off for Fairland)						NO		Rev 60			Mooring	NO		DSME											

MS8-5: Todd Production Inventory (Book 04)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engr Contractor
	Mooring System Arrangement Double Plate for Air Tugger						NO		Rev 60			Mooring	NO		DSME
	Mooring System Arrangement Double Plate for Air Tugger						NO		Rev 60			Mooring	NO		DSME
	Mooring System Arrangement (Messenger Chain Handling SW)						NO		Rev 60			Mooring	NO		DSME
	Mooring System Arrangement (Messenger Chain Handling SW)						NO		Rev 60			Mooring	NO		DSME
	Mooring System Arrangement (Messenger Chain Handling SW)						NO		Rev 60			Mooring	NO		DSME
	Mooring System Arrangement (Messenger Chain Handling SE)						NO		Rev 60			Mooring	NO		DSME
	Mooring System Arrangement (Messenger Chain Handling SE)						NO		Rev 60			Mooring	NO		DSME
	Mooring System Arrangement (Messenger Chain Handling SE)						NO		Rev 60			Mooring	NO		DSME
1440-50-MO-DG-231-0007	Mooring System Arrangement (Wooden Protection SW/ SE)						NO		Rev 60			Mooring	NO		DSME
1440-50-MO-DG-231-0007	Mooring System Arrangement (Wooden Protection SW/ SE)						NO		Rev 60			Mooring	NO		DSME
1440-50-MO-DG-231-0001	Mooring System - Mooring Winch Room Arr't	Rev 60, IFC	8/14/03	3/31/05			NO		Rev 60			Mooring	NO		DSME
1440-50-MO-DG-231-0001	Mooring System - Mooring Winch Room Arr't	Rev 60, IFC	8/14/03	3/31/05			NO		Rev 60			Mooring	NO		DSME
1440-50-MO-DG-231-0001	Mooring System - Mooring Winch Room Arr't	Rev 60, IFC	8/14/03	3/31/05			NO		Rev 60			Mooring	NO		DSME
1440-50-MO-DG-231-0001	Mooring System - Mooring Winch Room Arr't	Rev 60, IFC	8/14/03	3/31/05			NO		Rev 60			Mooring	NO		DSME
1440-50-MO-DG-231-0001	Mooring System - Mooring Winch Room Arr't	Rev 60, IFC	8/14/03	3/31/05			NO		Rev 60			Mooring	NO		DSME
1440-50-MO-DG-231-0001	Mooring System - Mooring Winch Room Arr't	Rev 60, IFC	8/14/03	3/31/05			NO		Rev 60			Mooring	NO		DSME
1440-50-MO-DG-231-0001	Mooring System - Mooring Winch Room Arr't	Rev 60, IFC	8/14/03	3/31/05			NO		Rev 60			Mooring	NO		DSME
1440-50-MO-DG-231-0001	Mooring System - Mooring Winch Room Arr't	Rev 60, IFC	8/14/03	3/31/05			NO		Rev 60			Mooring	NO		DSME
1440-50-MO-DG-231-0001	Mooring System - Mooring Winch Room Arr't	Rev 60, IFC	8/14/03	3/31/05			NO		Rev 60			Mooring	NO		DSME
1440-50-MO-DG-231-0001	Mooring System - Mooring Winch Room Arr't	Rev 60, IFC	8/14/03	3/31/05			NO		Rev 60			Mooring	NO		DSME
1440-50-MO-DG-231-0001	Mooring System - Mooring Winch Room Arr't	Rev 60, IFC	8/14/03	3/31/05			NO		Rev 60			Mooring	NO		DSME
1440-50-MO-DG-231-0001	Mooring System - Mooring Winch Room Arr't	Rev 60, IFC	8/14/03	3/31/05			NO		Rev 60			Mooring	NO		DSME
1440-50-MO-DG-231-0001	Mooring System - Mooring Winch Room Arr't	Rev 60, IFC	8/14/03	3/31/05			NO		Rev 60			Mooring	NO		DSME
1440-50-MO-DG-231-0001	Mooring System - Mooring Winch Room Arr't	Rev 60, IFC	8/14/03	3/31/05			NO		Rev 60			Mooring	NO		DSME
1440-50-MO-DG-231-0001	Mooring System - Mooring Winch Room Arr't	Rev 60, IFC	8/14/03	3/31/05			NO		Rev 60			Mooring	NO		DSME
1440-50-MO-DG-231-0001	Mooring System - Mooring Winch Room Arr't	Rev 60, IFC	8/14/03	3/31/05			NO		Rev 60			Mooring	NO		DSME
1440-50-MO-DG-231-0001	Mooring System - Mooring Winch Room Arr't	Rev 60, IFC	8/14/03	3/31/05			NO		Rev 60			Mooring	NO		DSME
1440-50-MO-DG-231-0001	Mooring System - Mooring Winch Room Arr't	Rev 60, IFC	8/14/03	3/31/05			NO		Rev 60			Mooring	NO		DSME
1440-50-MO-DG-231-0001	Mooring System - Mooring Winch Room Arr't	Rev 60, IFC	8/14/03	3/31/05			NO		Rev 60			Mooring	NO		DSME
1440-50-MO-DG-231-0001	Mooring System - Mooring Winch Room Arr't	Rev 60, IFC	8/14/03	3/31/05			NO		Rev 60			Mooring	NO		DSME
1440-50-MO-DG-231-0001	Mooring System - Mooring Winch Room Arr't	Rev 60, IFC	8/14/03	3/31/05			NO		Rev 60			Mooring	NO		DSME
1440-50-MO-DG-231-0001	Mooring System - Mooring Winch Room Arr't	Rev 60, IFC	8/14/03	3/31/05			NO		Rev 60			Mooring	NO		DSME
1440-50-MO-DG-231-0001	Mooring System - Mooring Winch Room Arr't	Rev 60, IFC	8/14/03	3/31/05			NO		Rev 60			Mooring	NO		DSME
1440-50-MO-DG-231-0001	Mooring System - Mooring Winch Room Arr't	Rev 60, IFC	8/14/03	3/31/05			NO		Rev 60			Mooring	NO		DSME
1440-50-MO-DG-231-0001	Mooring System - Mooring Winch Room Arr't	Rev 60, IFC	8/14/03	3/31/05			NO		Rev 60			Mooring	NO		DSME
1440-50-MO-DG-231-0001	Mooring System - Mooring Winch Room Arr't	Rev 60, IFC	8/14/03	3/31/05			NO		Rev 60			Mooring	NO		DSME
1440-50-MO-DG-231-0001	Mooring System - Mooring Winch Room Arr't	Rev 60, IFC	8/14/03	3/31/05			NO		Rev 60			Mooring	NO		DSME
1440-50-MO-DG-231-0001	Mooring System - Mooring Winch Room Arr't	Rev 60, IFC	8/14/03	3/31/05			NO		Rev 60			Mooring	NO		DSME
1440-50-MO-DG-231-0001	Mooring System - Mooring Winch Room Arr't	Rev 60, IFC	8/14/03	3/31/05			NO		Rev 60			Mooring	NO		DSME
1440-50-MO-DG-231-0001	Mooring System - Mooring Winch Room Arr't	Rev 60, IFC	8/14/03	3/31/05			NO		Rev 60			Mooring	NO		DSME
1440-50-MO-DG-231-0001	Mooring System - Mooring Winch Room Arr't	Rev 60, IFC	8/14/03	3/31/05			NO		Rev 60			Mooring	NO		DSME
1440-50-MO-DG-231-0003	Mooring System - (Fairlead Installation)	Rev 60, IFC	8/12/03	3/31/05			NO		Rev 60			Mooring	NO		DSME
1440-50-MO-DG-231-0003	Mooring System - (Fairlead Installation)	Rev 60, IFC	8/12/03	3/31/05			NO		Rev 60			Mooring	NO		DSME
1440-50-MO-DG-231-0003	Mooring System - (Fairlead Installation)	Rev 60, IFC	8/12/03	3/31/05			NO		Rev 60			Mooring	NO		DSME
1440-50-MO-DG-231-0003	Mooring System - (Fairlead Installation)	Rev 60, IFC	8/12/03	3/31/05			NO		Rev 60			Mooring	NO		DSME
1440-50-MO-DG-231-0003	Mooring System - (Fairlead Installation)	Rev 60, IFC	8/12/03	3/31/05			NO		Rev 60			Mooring	NO		DSME
1440-50-MO-DG-231-0003	Mooring System - (Fairlead Installation)	Rev 60, IFC	8/12/03	3/31/05			NO		Rev 60			Mooring	NO		DSME
1440-50-MO-DG-231-0003	Mooring System - (Fairlead Installation)	Rev 60, IFC	8/12/03	3/31/05			NO		Rev 60			Mooring	NO		DSME
1440-50-MO-DG-231-0003	Mooring System - (Fairlead Installation)	Rev 60, IFC	8/12/03	3/31/05			NO		Rev 60			Mooring	NO		DSME
1440-50-MO-DG-231-0003	Mooring System - (Fairlead Installation)	Rev 60, IFC	8/12/03	3/31/05			NO		Rev 60			Mooring	NO		DSME
1440-50-MO-DG-231-0003	Mooring System - (Fairlead Installation)	Rev 60, IFC	8/12/03	3/31/05			NO		Rev 60			Mooring	NO		DSME

MS8-5: Todd Production Inventory (Book 04)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engr Contractor	
1440-50-MO-DG-231-0003	Mooring System - (Fairlead Installation)	Rev 60, IFC	8/12/03	3/31/05			NO		Rev 60			Mooring	NO		DSME	
1440-50-MO-DG-231-0003	Mooring System - (Fairlead Installation)	Rev 60, IFC	8/12/03	3/31/05			NO		Rev 60			Mooring	NO		DSME	
1440-50-MO-DG-231-0003	Mooring System - (Fairlead Installation)	Rev 60, IFC	8/12/03	3/31/05			NO		Rev 60			Mooring	NO		DSME	
1440-50-MO-DG-231-0003	Mooring System - (Fairlead Installation)	Rev 60, IFC	8/12/03	3/31/05			NO		Rev 60			Mooring	NO		DSME	
1440-50-MO-DG-231-0001	Mooring System - Hydraulic Power Room	Rev 60, IFC	7/9/03	3/31/05			NO		Rev 60			Mooring	NO		DSME	
1440-50-MO-DG-231-0001	Mooring System - Hydraulic Power Room	Rev 60, IFC	7/9/03	3/31/05			NO		Rev 60			Mooring	NO		DSME	
1440-50-MO-DG-231-0001	Mooring System - Hydraulic Power Room	Rev 60, IFC	7/9/03	3/31/05			NO		Rev 60			Mooring	NO		DSME	
1440-50-MO-DG-231-0001	Mooring System - Hydraulic Power Room	Rev 60, IFC	7/9/03	3/31/05			NO		Rev 60			Mooring	NO		DSME	
	Mooring System - Chain Pipe Cover Detail	Rev 60, IFC	4/1/04	3/31/05			NO		Rev 60			Mooring	NO		DSME	
	Mooring System - Chain Pipe Cover Detail	Rev 60, IFC	4/1/04	3/31/05			NO		Rev 60			Mooring	NO		DSME	
	Mooring System - Chain Pipe Cover Detail	Rev 60, IFC	4/1/04	3/31/05			NO		Rev 60			Mooring	NO		DSME	
	Mooring System - Chain Pipe Cover Detail	Rev 60, IFC	4/1/04	3/31/05			NO		Rev 60			Mooring	NO		DSME	
	Mooring System - Chain Pipe Cover Detail	Rev 60, IFC	4/1/04	3/31/05			NO		Rev 60			Mooring	NO		DSME	
1440-50-MO-DG-119-1200	Helideck and Support Structure	Rev 60, As-Built	11/25/03	3/28/05			NO		Rev 60			Helideck	NO		DSME	
1440-50-MO-DG-119-1202	Helideck and Support Structure	Rev 60, IFC	11/25/03	3/28/05			NO		Rev 60			Helideck	NO		DSME	
1440-50-MO-DG-119-1203	Helideck and Support Structure	Rev 60, As-Built	11/25/03	3/28/05			NO		Rev 60			Helideck	NO		DSME	
1440-50-MO-DG-119-1204	Helideck and Support Structure	Rev 60, IFC	11/25/03	3/28/05			NO		Rev 60			Helideck	NO		DSME	
1440-50-MO-DG-119-1205	Helideck and Support Structure	Rev 60, IFC	11/25/03	3/28/05			NO		Rev 60			Helideck	NO		DSME	
1440-50-MO-DG-119-	Helideck and Support Structure	Rev 60, IFC	11/25/03	3/28/05			NO		Rev 60			Helideck	NO		DSME	
1440-50-MO-DG-119-0001	Helideck Ladder Stair & Walkway	Rev 60, IFC	9/22/03	3/31/05			NO		Rev 60			Helideck	NO		DSME	
1440-50-MO-DG-119-0001	Helideck Ladder Stair & Walkway	Rev 60, IFC	9/22/03	3/31/05			NO		Rev 60			Helideck	NO		DSME	
1440-50-MO-DG-119-0001	Helideck Ladder Stair & Walkway	Rev 60, IFC	9/22/03	3/31/05			NO		Rev 60			Helideck	NO		DSME	
1440-50-MO-DG-119-0001	Helideck Ladder Stair & Walkway	Rev 60, IFC	9/22/03	3/31/05			NO		Rev 60			Helideck	NO		DSME	
1440-50-MO-DG-119-0001	Helideck Ladder Stair & Walkway	Rev 60, IFC	9/22/03	3/31/05			NO		Rev 60			Helideck	NO		DSME	
1440-50-MO-DG-119-0001	Helideck Ladder Stair & Walkway	Rev 60, IFC	9/22/03	3/31/05			NO		Rev 60			Helideck	NO		DSME	
1440-50-MO-DG-119-0001	Helideck Ladder Stair & Walkway	Rev 60, IFC	9/22/03	3/31/05			NO		Rev 60			Helideck	NO		DSME	
1440-50-MO-DG-119-0001	Helideck Ladder Stair & Walkway	Rev 60, IFC	9/22/03	3/31/05			NO		Rev 60			Helideck	NO		DSME	
1440-50-MO-DG-119-0001	Helideck Ladder Stair & Walkway	Rev 60, IFC	9/22/03	3/31/05			NO		Rev 60			Helideck	NO		DSME	
1440-50-MO-DG-119-0001	Helideck Ladder Stair & Walkway	Rev 60, IFC	9/22/03	3/31/05			NO		Rev 60			Helideck	NO		DSME	
1440-50-MO-DG-119-0001	Helideck Arrangement Section View	Rev 10, BP Final Handover		4/27/07			NO					Helideck	NO		DSME	These drawing exist, but there was no additional data.
1440-50-MO-DG-119-0001	Helideck Arrangement Obstruction Free Zone	Rev 11, Revised after Final Handover		10/31/07			NO					Helideck	NO		DSME	These drawing exist, but there was no additional data.
1440-50-MO-DG-119-0001	Helideck Arrangement Tie Down Point	Rev 10, BP Final Handover		4/27/07			NO					Helideck	NO		DSME	These drawing exist, but there was no additional data.
1440-50-MO-DG-119-0006	Helidecking Markings	Rev 10, BP Final Handover		4/27/07			NO		Rev 10			Helideck	NO		DSME	
1440-50-MO-DG-119-1110	Helideck - Safety Nets Plan, Details and Sections	Rev 10, BP Final Handover		4/27/07			NO		Rev 10			Helideck	NO		DSME	
1440-50-MO-DG-119-1110	Helideck - Safety Nets Plan, Details and Sections	Rev 10, BP Final Handover		4/27/07			NO		Rev 10			Helideck	NO		DSME	
1440-50-MO-DG-119-1110	Helideck - Safety Nets Plan, Details and Sections	Rev 10, BP Final Handover		4/27/07			NO		Rev 10			Helideck	NO		DSME	
	Grating Hatch Cover						NO					Helideck	NO		DSME	
1440-50-MO-DG-119-1200/1201	Drawing for Equipment Foundation - Upper Hull	Rev 60	11/25/03	3/28/05			NO		Rev 60			Helideck	NO		DSME	There is no notation that the drawing is for IFC.
1440-50-MO-DG-119-1200/1201	Helideck and Support Structure	Rev 60; As-Built	11/25/03	3/28/05			NO		Rev 60			Helideck	NO		DSME	There is no notation that the drawing is for IFC.
1440-50-MO-DG-119-1202	Helideck and Support Structure	Rev 60	11/25/03	3/28/05			NO		Rev 60			Helideck	NO		DSME	There is no notation that the drawing is for IFC.

MS8-5: Todd Production Inventory (Book 04)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engr Contractor											
1440-50-MO-DG-119-1203	Helideck and Support Structure	Rev 60; As-Built	11/25/03	3/28/05			NO		Rev 60			Helideck	NO		DSME	There is no notation that the drawing is for IFC.										
1440-50-MO-DG-119-1204	Helideck and Support Structure	Rev 60	11/25/03	3/28/05			NO		Rev 60			Helideck	NO		DSME	There is no notation that the drawing is for IFC.										
1440-50-MO-DG-119-1205	Helideck and Support Structure	Rev 60	11/25/03	3/28/05			NO		Rev 60			Helideck	NO		DSME											
1440-50-MO-DG-119-	Helideck and Support Structure	Rev 60	11/25/03	3/28/05			NO		Rev 60			Helideck	NO		DSME											
1440-50-MO-DG-234-0020,0021	Fendering Frame Arrangement	Rev 60, IFC	9/30/03	3/31/05			NO		Rev 60			Fendering Frame	NO		DSME											
1440-50-MO-DG-234-0020,0021	Fendering Frame Arrangement	Rev 60, IFC	9/30/03	3/31/05			NO		Rev 60			Fendering Frame	NO		DSME											
1440-50-MO-DG-234-0020,0021	Fendering Frame Arrangement	Rev 60, IFC	9/30/03	3/31/05			NO		Rev 60			Fendering Frame	NO		DSME											
1440-50-MO-DG-234-0020,0021	Fendering Frame Arrangement	Rev 60, IFC	9/30/03	3/31/05			NO		Rev 60			Fendering Frame	NO		DSME											
1440-50-MO-DG-234-0020,0021	Fendering Frame Arrangement	Rev 60, IFC	9/30/03	3/31/05			NO		Rev 60			Fendering Frame	NO		DSME											
1440-50-MO-DG-234-0020,0021	Fendering Frame Arrangement	Rev 60, IFC	9/30/03	3/31/05			NO		Rev 60			Fendering Frame	NO		DSME											
1440-50-MO-DG-234-0020,0021	Fendering Frame Arrangement	Rev 60, IFC	9/30/03	3/31/05			NO		Rev 60			Fendering Frame	NO		DSME											
1440-50-MO-DG-234-0020,0021	Fendering Frame Arrangement	Rev 60, IFC	9/30/03	3/31/05			NO		Rev 60			Fendering Frame	NO		DSME											
1440-50-MO-DG-234-0020,0021	Fendering Frame Arrangement	Rev 60, IFC	9/30/03	3/31/05			NO		Rev 60			Fendering Frame	NO		DSME											
1440-50-MO-DG-234-0020,0021	Fendering Frame Arrangement	Rev 60, IFC	9/30/03	3/31/05			NO		Rev 60			Fendering Frame	NO		DSME											
1440-50-MO-DG-234-0020,0021	Fendering Frame Arrangement	Rev 60, IFC	9/30/03	3/31/05			NO		Rev 60			Fendering Frame	NO		DSME											
1440-50-MO-DG-234-0020,0021	Fendering Frame Arrangement	Rev 60, IFC	9/30/03	3/31/05			NO		Rev 60			Fendering Frame	NO		DSME											

MS8-6: Todd Production Inventory (Book 05)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engr Contractor
1440-50-MO-DG-450-0001	Draught Marks Arr't	Rev 60; Final AFC		4/10/05	GHKIM				Rev 60; Final AFC	GHKIM		Draught Marks	NO		DSME
1440-50-MO-DG-450-0002	Draught Marks Arr't	Rev 60; Final AFC		4/10/05	GHKIM				Rev 60; Final AFC	GHKIM		Draught Marks	NO		DSME
1440-50-MO-DG-450-0003	Draught Marks Arr't	Rev 60; Final AFC		4/10/05	GHKIM				Rev 60; Final AFC	GHKIM		Draught Marks	NO		DSME
	Draught Marks Arr't	Rev 60; Final AFC		4/10/05	GHKIM				Rev 60; Final AFC	GHKIM		Draught Marks	NO		DSME
1440-50-MO-DG-450-0004	Draught Marks Arr't	Rev 60; Final AFC		4/10/05	GHKIM				Rev 60; Final AFC	GHKIM		Draught Marks	NO		DSME
1440-50-MO-DG-260-0001	Lifesaving Equip	Rev 10; Final Handover		4/5/07	SRS							Lifesaving Equip	NO		DSME
1440-50-MO-DG-260-0001	Lifesaving Equip	Rev 10; Final Handover		4/5/07	SRS							Lifesaving Equip	NO		DSME
1440-50-MO-DG-260-0001	Lifesaving Equip	Rev 10; Final Handover		4/5/07	SRS							Lifesaving Equip	NO		DSME
1440-50-DG-136-001	Arr't of Personnel Elevator (SE Column)	Rev 60, IFC	12/12/03	3/31/05			NO		Rev 60			Lifts

MS8-6: Todd Production Inventory (Book 05)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engr Contractor
1440-50-MO-DG-134-0001,2,4	Internal Ladder, Stair, & Platform - Deck Box / NW	Rev 60, IFC	9/23/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0001,2,4	Internal Ladder, Stair, & Platform - Deck Box / NE	Rev 60, IFC	9/23/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0001,2,4	Internal Ladder, Stair, & Platform - Deck Box / NE	Rev 60, IFC	9/23/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0001,2,4	Internal Ladder, Stair, & Platform - Deck Box / NE	Rev 60, IFC	9/23/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0001,2,4	Internal Ladder, Stair, & Platform - Deck Box / NE	Rev 60, IFC	9/23/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0001,2,4	Internal Ladder, Stair, & Platform - Deck Box / NE	Rev 60, IFC	9/23/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0001,2,4	Internal Ladder, Stair, & Platform - Deck Box / NE	Rev 60, IFC	9/23/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0001,2,4	Internal Ladder, Stair, & Platform - Deck Box / SE	Rev 60, IFC	9/23/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0001,2,4	Internal Ladder, Stair, & Platform - Deck Box / SE	Rev 60, IFC	9/23/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0001,2,4	Internal Ladder, Stair, & Platform - Deck Box / SE	Rev 60, IFC	9/23/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0001,2,4	Internal Ladder, Stair, & Platform - Deck Box / SE	Rev 60, IFC	9/23/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0001,2,4	Internal Ladder, Stair, & Platform - Deck Box / SE	Rev 60, IFC	9/23/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0001,2,4	Internal Ladder, Stair, & Platform - Deck Box / SE	Rev 60, IFC	9/23/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0001,2,4	Internal Ladder, Stair, & Platform - Deck Box / SW	Rev 60, IFC	9/23/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0001,2,4	Internal Ladder, Stair, & Platform - Deck Box / SW	Rev 60, IFC	9/23/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0001,2,4	Internal Ladder, Stair, & Platform - Deck Box / SW	Rev 60, IFC	9/23/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0001,2,4	Internal Ladder, Stair, & Platform - Deck Box / SW	Rev 60, IFC	9/23/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0001,2,4	Internal Ladder, Stair, & Platform - Deck Box / SW	Rev 60, IFC	9/23/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0020	Spiral Stairway Pontoon & Columns / NW	Rev 60, IFC	9/4/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0020	Spiral Stairway Pontoon & Columns / NW	Rev 60, IFC	9/4/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0020	Spiral Stairway Pontoon & Columns / NW	Rev 60, IFC	9/4/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0020	Spiral Stairway Pontoon & Columns / NW	Rev 60, IFC	9/4/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME

MS8-6: Todd Production Inventory (Book 05)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engr Contractor
1440-50-MO-DG-134-0020	Spiral Stairway Pontoon & Columns / NW	Rev 60, IFC	9/4/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0020	Spiral Stairway Pontoon & Columns / NW	Rev 60, IFC	9/4/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0020	Spiral Stairway Pontoon & Columns / NE	Rev 60, IFC	7/4/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0020	Spiral Stairway Pontoon & Columns / NE	Rev 60, IFC	7/4/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0020	Spiral Stairway Pontoon & Columns / NE	Rev 60, IFC	7/4/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0020	Spiral Stairway Pontoon & Columns / NE	Rev 60, IFC	7/4/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0020	Spiral Stairway Pontoon & Columns / NE	Rev 60, IFC	7/4/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0020	Spiral Stairway Pontoon & Columns / SE	Rev 60, IFC	7/4/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0020	Spiral Stairway Pontoon & Columns / SE	Rev 60, IFC	7/4/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0020	Spiral Stairway Pontoon & Columns / SE	Rev 60, IFC	7/4/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0020	Spiral Stairway Pontoon & Columns / SE	Rev 60, IFC	7/4/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0020	Spiral Stairway Pontoon & Columns / SW	Rev 60, IFC	7/4/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0020	Spiral Stairway Pontoon & Columns / SW	Rev 60, IFC	7/4/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0020	Spiral Stairway Pontoon & Columns / SW	Rev 60, IFC	7/4/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0020	Spiral Stairway Pontoon & Columns / SW	Rev 60, IFC	7/4/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0020	Grating Plan - Column Intermediate Deck / NW Column (Access Trunk)	Rev 60, IFC	7/25/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0020	Grating Plan - Column Intermediate Deck / NW Column (Access Trunk)	Rev 60, IFC	7/25/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0020	Grating Plan - Column Intermediate Deck / NW Column (Access Trunk)	Rev 60, IFC	7/25/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0020	Grating Plan - Column Intermediate Deck / NW Column (Access Trunk)	Rev 60, IFC	7/25/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0020	Grating Plan - Column Intermediate Deck / NW Column (Access Trunk)	Rev 60, IFC	7/25/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0020	Grating Plan - Column Intermediate Deck / NE Column (Access Trunk)	Rev 60, IFC	7/25/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0020	Grating Plan - Column Intermediate Deck / NE Column (Access Trunk)	Rev 60, IFC	7/25/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0020	Grating Plan - Column Intermediate Deck / NE Column (Access Trunk)	Rev 60, IFC	7/25/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME

MS8-6: Todd Production Inventory (Book 05)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engr Contractor
1440-50-MO-DG-134-0020	Grating Plan - Column Intermediate Deck / NE Column (Access Trunk)	Rev 60, IFC	7/25/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0020	Grating Plan - Column Intermediate Deck / NE Column (Access Trunk)	Rev 60, IFC	7/25/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0020	Grating Plan - Column Intermediate Deck / SE Column (Access Trunk)	Rev 60, IFC	8/29/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0020	Grating Plan - Column Intermediate Deck / SE Column (Access Trunk)	Rev 60, IFC	8/29/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0020	Grating Plan - Column Intermediate Deck / SE Column (Access Trunk)	Rev 60, IFC	8/29/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0020	Grating Plan - Column Intermediate Deck / SE Column (Access Trunk)	Rev 60, IFC	8/29/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0020	Grating Plan - Column Intermediate Deck / SE Column (Access Trunk)	Rev 60, IFC	8/29/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0020	Grating Plan - Column Intermediate Deck / SW Column (Access Trunk)	Rev 60, IFC	8/29/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0020	Grating Plan - Column Intermediate Deck / SW Column (Access Trunk)	Rev 60, IFC	8/29/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0020	Grating Plan - Column Intermediate Deck / SW Column (Access Trunk)	Rev 60, IFC	8/29/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0020	Grating Plan - Column Intermediate Deck / SW Column (Access Trunk)	Rev 60, IFC	8/29/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
	Maintenance Platform - Valve / Pipe Maint. / NW Column (Pipe Trunk)	Rev 60. IFC	7/25/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
	Maintenance Platform - Valve / Pipe Maint. / NW Column (Pipe Trunk)	Rev 60. IFC	7/25/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
	Maintenance Platform - Valve / Pipe Maint. / NW Column (Pipe Trunk)	Rev 60. IFC	7/25/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
	Maintenance Platform - Valve / Pipe Maint. / NE Column (Pipe Trunk)	Rev 60, IFC	7/25/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
	Maintenance Platform - Valve / Pipe Maint. / NE Column (Pipe Trunk)	Rev 60, IFC	7/25/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
	Maintenance Platform - Valve / Pipe Maint. / NE Column (Pipe Trunk)	Rev 60, IFC	7/25/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
	Maintenance Platform - Valve / Pipe Maint. / SE Column (Pipe Trunk)	Rev 60, IFC	9/9/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
	Maintenance Platform - Valve / Pipe Maint. / SE Column (Pipe Trunk)	Rev 60, IFC	9/9/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
	Maintenance Platform - Valve / Pipe Maint. / SE Column (Pipe Trunk)	Rev 60, IFC	9/9/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
	Maintenance Platform - Valve / Pipe Maint. / SE Column (Pipe Trunk)	Rev 60, IFC	9/9/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME

MS8-6: Todd Production Inventory (Book 05)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engr Contractor
	Maintenance Platform - Valve / Pipe Maint. / SW Column (Pipe Trunk)	Rev 60, IFC	9/9/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
	Maintenance Platform - Valve / Pipe Maint. / SW Column (Pipe Trunk)	Rev 60, IFC	9/9/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
	Maintenance Platform - Valve / Pipe Maint. / SW Column (Pipe Trunk)	Rev 60, IFC	9/9/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
	Maintenance Platform - Valve / Pipe Maint. / SW Column (Pipe Trunk)	Rev 60, IFC	9/9/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0003	Storm Rail Arrangement for Pontoon	Rev 60, IFC	7/25/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0003	Storm Rail Arrangement for Pontoon	Rev 60, IFC	7/25/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0003	Storm Rail Arrangement for Pontoon	Rev 60, IFC	7/25/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0003	Storm Rail Arrangement for Pontoon	Rev 60, IFC	7/25/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0003	Storm Rail Arrangement for Pontoon	Rev 60, IFC	7/25/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0001	Storm Rail Arrangement - Lower Deck	Rev 60, IFC	10/10/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0001	Storm Rail Arrangement - Lower Deck	Rev 60, IFC	10/10/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0001	Storm Rail Arrangement - Lower Deck	Rev 60, IFC	10/10/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0001	Storm Rail Arrangement - Lower Deck	Rev 60, IFC	10/10/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0001	Storm Rail Arrangement - Lower Deck	Rev 60, IFC	10/10/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0001	Storm Rail Arrangement - Tween Deck	Rev 60, IFC	10/10/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0001	Storm Rail Arrangement - Tween Deck	Rev 60, IFC	10/10/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0001	Storm Rail Arrangement - Tween Deck	Rev 60, IFC	10/10/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0001	Storm Rail Arrangement - Tween Deck	Rev 60, IFC	10/10/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-133-0001-3	External Ladder, Stair & Platform - Deck House	Rev 60, IFC	10/24/03	3/31/05			NO		Rev 60			External Railings	NO		DSME
1440-50-MO-DG-133-0001-3	External Ladder, Stair & Platform - Deck House (Stair & Platform)	Rev 60, IFC	10/24/03	3/31/05			NO		Rev 60			External Railings	NO		DSME
1440-50-MO-DG-133-0001-3	External Ladder, Stair & Platform - Deck House (Vertical - Ladder & Platform)	Rev 60, IFC	10/24/03	3/31/05			NO		Rev 60			External Railings	NO		DSME
1440-50-MO-DG-133-0001-3	External Ladder, Stair & Platform - Deck House (Typical Detail)	Rev 60, IFC	10/24/03	3/31/05			NO		Rev 60			External Railings	NO		DSME
1440-50-MO-DG-133-0001-3	External Ladder, Stair & Platform - Deck House (Typical Detail)	Rev 60, IFC	10/24/03	3/31/05			NO		Rev 60			External Railings	NO		DSME
1440-50-MO-DG-133-0001-3	External Ladder, Stair & Platform - Deck House (Typical Detail)	Rev 60, IFC	10/24/03	3/31/05			NO		Rev 60			External Railings	NO		DSME

MS8-6: Todd Production Inventory (Book 05)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engr Contractor
1440-50-MO-DG-133-0001-3	External Ladder, Stair & Platform - Deck House (Typical Detail)	Rev 60, IFC	10/24/03	3/31/05			NO		Rev 60			External Railings	NO		DSME

MS8-6: Todd Production Inventory (Book 05)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engr Contractor
1440-50-MO-DG-133-0002	Handrail / Storm Rail Arrangement - - Deck House / 3rd Level	Rev 60, IFC	10/14/03	3/31/05			NO		Rev 60			External Railings	NO		DSME
1440-50-MO-DG-133-0002	Handrail / Storm Rail Arrangement - - Deck House / 3rd Level	Rev 60, IFC	10/14/03	3/31/05			NO		Rev 60			External Railings	NO		DSME
1440-50-MO-DG-133-0002	Handrail / Storm Rail Arrangement - - Deck House / Roof	Rev 60, IFC	10/14/03	3/31/05			NO		Rev 60			External Railings	NO		DSME
1440-50-MO-DG-133-0002	Handrail / Storm Rail Arrangement - - Deck House / Roof	Rev 60, IFC	10/14/03	3/31/05			NO		Rev 60			External Railings	NO		DSME
1440-50-MO-DG-133-0002	Handrail / Storm Rail Arrangement - - Deck House / Roof	Rev 60, IFC	10/14/03	3/31/05			NO		Rev 60			External Railings	NO		DSME
	Arrangement of Deck Coaming	Rev 60, IFC	4/14/03	3/31/05			NO		Rev 60			External Railings	NO		DSME
	Arrangement of Deck Coaming	Rev 60, IFC	4/14/03	3/31/05			NO		Rev 60			External Railings	NO		DSME
	Arrangement of Deck Coaming	Rev 60, IFC	4/14/03	3/31/05			NO		Rev 60			External Railings	NO		DSME
	Arrangement of Deck Coaming	Rev 60, IFC	4/14/03	3/31/05			NO		Rev 60			External Railings	NO		DSME
	Arrangement of Deck Coaming	Rev 60, IFC	4/14/03	3/31/05			NO		Rev 60			External Railings	NO		DSME
	Arrangement of Deck Coaming	Rev 60, IFC	4/14/03	3/31/05			NO		Rev 60			External Railings	NO		DSME
	Arrangement of Deck Coaming	Rev 60, IFC	4/14/03	3/31/05			NO		Rev 60			External Railings	NO		DSME
	Arrangement of Deck Coaming	Rev 60, IFC	4/14/03	3/31/05			NO		Rev 60			External Railings	NO		DSME
1440-50-MO-DG-133-0003,4,6	External Ladder Stair Arrangement for Deck Box (NW)	Rev 60, IFC	9/9/03	3/31/05			NO		Rev 60			External Railings	NO		DSME
1440-50-MO-DG-133-0004	External Ladder Stair Arrangement for Deck Box (NW)	Rev 60, IFC										External Railings	NO		DSME
1440-50-MO-DG-133-0004	External Ladder Stair Arrangement for Deck Box (NW)	Rev 60, IFC										External Railings	NO		DSME
1440-50-MO-DG-133-0004,6	External Ladder Stair Arrangement for Deck Box (NW)	Rev 60, IFC										External Railings	NO		DSME
1440-50-MO-DG-133-0003,4,6	External Ladder Stair Arrangement for Deck Box (NE)	Rev 60, IFC	9/9/03	3/31/05			NO		Rev 60			External Railings	NO		DSME
1440-50-MO-DG-133-0004	External Ladder Stair Arrangement for Deck Box (NE)	Rev 60, IFC										External Railings	NO		DSME
1440-50-MO-DG-133-0004,6	External Ladder Stair Arrangement for Deck Box (NE)	Rev 60, IFC										External Railings	NO		DSME
1440-50-MO-DG-133-0004,6	External Ladder Stair Arrangement for Deck Box (NE)	Rev 60, IFC										External Railings	NO		DSME
1440-50-MO-DG-133-0003,4,6	External Ladder Stair Arrangement for Deck Box (SE)	Rev 60, IFC	9/9/03	3/31/05			NO		Rev 60			External Railings	NO		DSME
1440-50-MO-DG-133-0004	External Ladder Stair Arrangement for Deck Box (SE)	Rev 60, IFC										External Railings	NO		DSME
1440-50-MO-DG-133-0004,6	External Ladder Stair Arrangement for Deck Box (SE)	Rev 60, IFC										External Railings	NO		DSME
1440-50-MO-DG-133-0003,4,6	External Ladder Stair Arrangement for Deck Box (SW)	Rev 60, IFC	9/9/03	3/31/05			NO		Rev 60			External Railings	NO		DSME
1440-50-MO-DG-133-0004	External Ladder Stair Arrangement for Deck Box (SW)	Rev 60, IFC										External Railings	NO		DSME
1440-50-MO-DG-133-0004,6	External Ladder Stair Arrangement for Deck Box (SE)	Rev 60, IFC										External Railings	NO		DSME
1440-50-MO-DG-133-0004,6	External Ladder Stair Arrangement for Deck Box (SE)	Rev 60, IFC										External Railings	NO		DSME

MS8-6: Todd Production Inventory (Book 05)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engr Contractor
1440-50-MO-DG-133-0005	External Ladder Stair & Platform - Column	Rev 60, IFC	8/7/03	3/31/05			NO		Rev 60			External Railings	NO		DSME
1440-50-MO-DG-133-0005	External Ladder Stair & Platform - Column	Rev 60, IFC										External Railings	NO		DSME
1440-50-MO-DG-133-0005	External Ladder Stair & Platform - Column	Rev 60, IFC										External Railings	NO		DSME
1440-50-MO-DG-133-0005	External Ladder Stair & Platform - Column	Rev 60, IFC										External Railings	NO		DSME
1440-50-MO-DG-133-0005	External Ladder Stair & Platform - Column	Rev 60, IFC										External Railings	NO		DSME
1440-50-MO-DG-133-0005	External Ladder Stair & Platform - Column	Rev 60, IFC										External Railings	NO		DSME
1440-50-MO-DG-133-5003-001	Riser Gas Barrier No. 5 - Details	Rev 0, IFC	8/25/09	8/25/09			NO					External Railings	NO		DSME
1440-50-MO-DG-133-5003-002	Riser Gas Barrier No. 5 - Details	Rev 0, IFC	8/25/09	8/25/09			NO					External Railings	NO		DSME
1440-50-MO-DG-133-5003-001	External Ladders, Stair & Platform - Mast.	Rev 60, IFC	1/15/04	3/31/05			NO		Rev 60			External Railings	NO		DSME
1440-50-MO-DG-231-0001	External Ladders, Stair & Platform - Mast.	Rev 60, IFC										External Railings	NO		DSME
1440-50-MO-DG-231-0001	External Ladders, Stair & Platform - Mast.	Rev 60, IFC										External Railings	NO		DSME
1440-50-MO-DG-231-0001	External Ladders, Stair & Platform - Mast.	Rev 60, IFC										External Railings	NO		DSME
1440-50-MO-DG-231-0001	External Ladders, Stair & Platform - Mast.	Rev 60, IFC										External Railings	NO		DSME
1440-50-MO-DG-231-0001	External Ladders, Stair & Platform - Mast.	Rev 60, IFC										External Railings	NO		DSME
1440-50-MO-DG-231-0002	Lower Deck Platform / Handrail Arrangement for NW Corner	Rev 60, IFC	8/26/03	3/31/05			NO		Rev 60			External Railings	NO		DSME
1440-50-MO-DG-231-0002	Lower Deck Platform / Handrail Arrangement for NW Corner	Rev 60, IFC										External Railings	NO		DSME
1440-50-MO-DG-231-0002	Lower Deck Platform / Handrail Arrangement for NW Corner	Rev 60, IFC										External Railings	NO		DSME
1440-50-MO-DG-231-0002	Lower Deck Platform / Handrail Arrangement for NW Corner	Rev 60, IFC										External Railings	NO		DSME
1440-50-MO-DG-231-0002	Lower Deck Platform / Handrail Arrangement for NE Corner	Rev 60, IFC	8/26/03	3/31/05			NO		Rev 60			External Railings	NO		DSME
1440-50-MO-DG-231-0002	Lower Deck Platform / Handrail Arrangement for NE Corner	Rev 60, IFC										External Railings	NO		DSME
1440-50-MO-DG-231-0002	Lower Deck Platform / Handrail Arrangement for NE Corner	Rev 60, IFC										External Railings	NO		DSME
1440-50-MO-DG-231-0002	Lower Deck Platform / Handrail Arrangement for SE Corner	Rev 60, IFC	8/26/03	3/31/05			NO		Rev 60			External Railings	NO		DSME
1440-50-MO-DG-231-0002	Lower Deck Platform / Handrail Arrangement for SE Corner	Rev 60, IFC										External Railings	NO		DSME
1440-50-MO-DG-231-0002	Lower Deck Platform / Handrail Arrangement for SE Corner	Rev 60, IFC										External Railings	NO		DSME
1440-50-MO-DG-231-0002	Lower Deck Platform / Handrail Arrangement for SW Corner	Rev 60, IFC	8/26/03	3/31/05			NO		Rev 60			External Railings	NO		DSME
1440-50-MO-DG-231-0002	Lower Deck Platform / Handrail Arrangement for SW Corner	Rev 60, IFC										External Railings	NO		DSME
1440-50-MO-DG-231-0002	Lower Deck Platform / Handrail Arrangement for SW Corner	Rev 60, IFC										External Railings	NO		DSME
1440-50-MO-DG-231-0001	Tween Deck Platform / Handrail Arrangement / NW Corner	Rev 60. IFC	9/22/03	3/31/05			NO		Rev 60			External Railings	NO		DSME
1440-50-MO-DG-231-0001	Tween Deck Platform / Handrail Arrangement / NW Corner	Rev 60. IFC										External Railings	NO		DSME
1440-50-MO-DG-231-0001	Tween Deck Platform / Handrail Arrangement / NW Corner	Rev 60. IFC										External Railings	NO		DSME
1440-50-MO-DG-231-0001	Tween Deck Platform / Handrail Arrangement / NW Corner	Rev 60. IFC										External Railings	NO		DSME

MS8-6: Todd Production Inventory (Book 05)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engr Contractor
1440-50-MO-DG-231-0002	Tween Deck Platform / Handrail Arrangement / NE Corner	Rev 60. IFC	9/8/03	3/31/05			NO		Rev 60			External Railings	NO		DSME
1440-50-MO-DG-231-0002	Tween Deck Platform / Handrail Arrangement / NE Corner	Rev 60. IFC										External Railings	NO		DSME
1440-50-MO-DG-231-0002	Tween Deck Platform / Handrail Arrangement / SE Corner	Rev 60. IFC	9/8/03	3/31/05			NO		Rev 60			External Railings	NO		DSME
1440-50-MO-DG-231-0002	Tween Deck Platform / Handrail Arrangement / SW Corner	Rev 60. IFC	9/8/03	3/31/05			NO		Rev 60			External Railings	NO		DSME
1440-50-MO-DG-231-0002	Tween Deck Platform / Handrail Arrangement / SW Corner	Rev 60. IFC										External Railings	NO		DSME
	Arr't of Tank Marking (Pontoon Top Deck)	As-Built	10/15/03	3/28/05			NO		Rev 60			Miscellaneous	NO		DSME
	Pontoon Bottom Shell	As-Built	10/15/03	3/28/05			NO		Rev 60			Miscellaneous	NO		DSME
	Pontoon Shell Expand-NW Area	Rev 60, IFC	10/15/03	3/28/05			NO		Rev 60			Miscellaneous	NO		DSME
	Pontoon Shell Expand-SW Area	Rev 60, IFC	10/15/03	3/28/05			NO		Rev 60			Miscellaneous	NO		DSME
	Column Shell Expand- AFT	Rev 60, IFC	10/15/03	3/28/05			NO		Rev 60			Miscellaneous	NO		DSME
	Column Shell Expand- FWD	Rev 60, IFC	10/15/03	3/28/05			NO		Rev 60			Miscellaneous	NO		DSME
	Mooring System Chain Pipe Cover Detail	Rev 60, IFC	4/1/04	3/31/05			NO		Rev 60			Miscellaneous	NO		DSME
	Mooring System Chain Pipe Cover Detail	Rev 60, IFC	4/1/04	3/31/05			NO		Rev 60			Miscellaneous	NO		DSME
	Mooring System Chain Pipe Cover Detail	Rev 60, IFC	4/1/04	3/31/05			NO		Rev 60			Miscellaneous	NO		DSME
	Mooring System Chain Pipe Cover Detail	Rev 60, IFC	4/1/04	3/31/05			NO		Rev 60			Miscellaneous	NO		DSME
	Mooring System Chain Pipe Cover Detail	Rev 60, IFC	4/1/04	3/31/05			NO		Rev 60			Miscellaneous	NO		DSME
	Mooring System Chain Pipe Cover Detail	Rev 60, IFC	4/1/04	3/31/05			NO		Rev 60			Miscellaneous	NO		DSME
	Mast Structure (SE Main Antenna Tower)	Rev 60, IFC	12/22/03	3/28/05			NO		Rev 60			Miscellaneous	NO		DSME
	Mast Structure (NW Antenna Tower)	Rev 60, IFC	12/22/03	3/28/05			NO		Rev 60			Miscellaneous	NO		DSME
	Mast Structure (SE Main Antenna Tower)	Rev 60, IFC	12/22/03	3/28/05			NO		Rev 60			Miscellaneous	NO		DSME
	Mast Structure (NW Antenna Tower)	Rev 60, IFC	12/22/03	3/28/05			NO		Rev 60			Miscellaneous	NO		DSME
	Mast Structure (SE Main Antenna Tower)	Rev 60, IFC	12/22/03	3/28/05			NO		Rev 60			Miscellaneous	NO		DSME
	Mast Structure (NW Antenna Tower)	Rev 60, IFC	12/22/03	3/28/05			NO		Rev 60			Miscellaneous	NO		DSME
	Sea Fastening and Catcher	Rev 60, IFC	10/21/03	3/28/05			NO		Rev 60			Miscellaneous	NO		DSME
	Sea Fastening and Catcher	Rev 60, IFC	10/21/03	3/28/05			NO		Rev 60			Miscellaneous	NO		DSME
	Sea Fastening and Catcher	Rev 60, IFC	10/21/03	3/28/05			NO		Rev 60			Miscellaneous	NO		DSME
	Sea Fastening and Catcher	Rev 60, IFC	10/21/03	3/28/05			NO		Rev 60			Miscellaneous	NO		DSME
	Sea Fastening and Catcher	Rev 60, IFC	10/21/03	3/28/05			NO		Rev 60			Miscellaneous	NO		DSME
	Sea Fastening and Catcher	Rev 60, IFC	10/21/03	3/28/05			NO		Rev 60			Miscellaneous	NO		DSME
	Plan of Stringers - Column STR. 1 & 2 (FWD-STB Column)	Rev 60, IFC	10/1/03	3/28/05			NO		Rev 60			Miscellaneous	NO		DSME
	Plan of Stringers - Column STR. 3 (FWD-STB Column)	Rev 60, IFC	10/1/03	3/28/05			NO		Rev 60			Miscellaneous	NO		DSME
	WT Stringer - Column STR. 4 (FWD - STBA Column)	Rev 60, IFC	10/1/03	3/28/05			NO		Rev 60			Miscellaneous	NO		DSME
	Details Around cast Integrals	Rev 60, IFC	1/13/04	3/28/05			NO		Rev 60			Miscellaneous	NO		DSME
	Transverse Sections (4) Upper Hull (FWD SB Quardrant)	Rev 60, IFC	9/19/03	3/28/05			NO		Rev 60			Miscellaneous	NO		DSME
	Structural Details (Scallops for Block Butt)	Rev 60, IFC	6/13/03	3/28/05			NO		Rev 60			Miscellaneous	NO		DSME
	Structural Details	Rev 60, IFC	6/13/03	3/28/05			NO		Rev 60			Miscellaneous	NO		DSME
1440-50-MO-DG-135-0004	Ladder & Platform Column NW	Rev 60, IFC	7/14/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0004	Ladder & Platform Column NW	Rev 60, IFC	7/14/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0004	Ladder & Platform Column NW	Rev 60, IFC	7/14/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0005	Ladder & Platform Column NW	Rev 60, IFC	7/14/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0005	Ladder & Platform Column NW	Rev 60, IFC	7/14/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0006	Ladder & Platform Column NW	Rev 60, IFC	7/14/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME

MS8-6: Todd Production Inventory (Book 05)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engr Contractor
1440-50-MO-DG-135-0006	Ladder & Platform Column NW	Rev 60, IFC	7/14/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0006	Ladder & Platform Column NW	Rev 60, IFC	7/14/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0004	Ladder & Platform Column NE	Rev 60, IFC	7/14/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0004	Ladder & Platform Column NE	Rev 60, IFC	7/14/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0004	Ladder & Platform Column NE	Rev 60, IFC	7/14/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0005	Ladder & Platform Column NE	Rev 60, IFC	7/14/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0005	Ladder & Platform Column NE	Rev 60, IFC	7/14/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0006	Ladder & Platform Column NE	Rev 60, IFC	7/14/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0006	Ladder & Platform Column NE	Rev 60, IFC	7/14/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0006	Ladder & Platform Column NE	Rev 60, IFC	7/14/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0004	Ladder & Platform Column SE	Rev 60, IFC	7/14/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0004	Ladder & Platform Column SE	Rev 60, IFC	7/14/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0004	Ladder & Platform Column SE	Rev 60, IFC	7/14/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0004	Ladder & Platform Column SE	Rev 60, IFC	7/14/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0004	Ladder & Platform Column SE	Rev 60, IFC	7/14/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0004	Ladder & Platform Column SE	Rev 60, IFC	7/14/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0004	Ladder & Platform Column SE	Rev 60, IFC	7/14/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0004	Ladder & Platform Column SE	Rev 60, IFC	7/14/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0004	Ladder & Platform Column SW	Rev 60, IFC	6/20/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0004	Ladder & Platform Column SW	Rev 60, IFC	6/20/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0004	Ladder & Platform Column SW	Rev 60, IFC	6/20/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0004	Ladder & Platform Column SW	Rev 60, IFC	6/20/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0004	Ladder & Platform Column SW	Rev 60, IFC	6/20/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0004	Ladder & Platform Column SW	Rev 60, IFC	6/20/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0004	Ladder & Platform Column SW	Rev 60, IFC	6/20/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0004	Ladder & Platform Column SW	Rev 60, IFC	6/20/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0003	Ladder & Platform Deck Box NW	Rev 60, IFC	8/1/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0003	Ladder & Platform Deck Box	Rev 60, IFC	8/1/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
	Ladder & Platform Deck Box	Rev 60, IFC	8/1/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0003	Ladder & Platform Deck Box	Rev 60, IFC	8/1/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0003	Ladder & Platform Deck Box	Rev 60, IFC	8/1/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0003	Ladder & Platform Deck Box	Rev 60, IFC	8/1/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0003	Ladder & Platform Deck Box NE	Rev 60, IFC	8/18/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0003	Ladder & Platform Deck Box SE	Rev 60, IFC	8/18/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0003	Ladder & Platform Deck Box SW	Rev 60, IFC	8/18/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0007	Ladder & Platform Pontoon NW	Rev 60, IFC	6/30/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0007	Ladder & Platform Pontoon NW	Rev 60, IFC	6/30/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0007	Ladder & Platform Pontoon NW	Rev 60, IFC	6/30/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0007	Ladder & Platform Pontoon NW	Rev 60, IFC	6/30/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0007	Ladder & Platform Pontoon NE	Rev 60, IFC	7/15/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0007	Ladder & Platform Pontoon NE	Rev 60, IFC	7/15/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0007	Ladder & Platform Pontoon NE	Rev 60, IFC	7/15/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0007	Ladder & Platform Pontoon SE	Rev 60, IFC	7/15/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0007	Ladder & Platform Pontoon SE	Rev 60, IFC	7/15/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0007	Ladder & Platform Pontoon SE	Rev 60, IFC	7/15/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0007	Ladder & Platform Pontoon SW	Rev 60, IFC	7/15/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0007	Ladder & Platform Pontoon SW	Rev 60, IFC	7/15/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0007	Ladder & Platform Pontoon SW	Rev 60, IFC	7/15/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME

MS8-6: Todd Production Inventory (Book 05)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engr Contractor
	Typical Detail	Rev 60, IFC					NO					Ladders in Cargo	NO		DSME
	Typical Detail	Rev 60, IFC					NO					Ladders in Cargo	NO		DSME
	Typical Detail	Rev 60, IFC					NO					Ladders in Cargo	NO		DSME
	Typical Detail	Rev 60, IFC					NO					Ladders in Cargo	NO		DSME
	Typical Detail	Rev 60, IFC					NO					Ladders in Cargo	NO		DSME
	Typical Detail	Rev 60, IFC					NO					Ladders in Cargo	NO		DSME
	Typical Detail	Rev 60, IFC					NO					Ladders in Cargo	NO		DSME
	Typical Detail	Rev 60, IFC					NO					Ladders in Cargo	NO		DSME
	Typical Detail	Rev 60, IFC					NO					Ladders in Cargo	NO		DSME
	Typical Detail	Rev 60, IFC					NO					Ladders in Cargo	NO		DSME
	Typical Detail	Rev 60, IFC					NO					Ladders in Cargo	NO		DSME
	Typical Detail	Rev 60, IFC					NO					Ladders in Cargo	NO		DSME
	Typical Detail	Rev 60, IFC					NO					Ladders in Cargo	NO		DSME
	Typical Detail	Rev 60, IFC					NO					Ladders in Cargo	NO		DSME
	Typical Detail	Rev 60, IFC					NO					Ladders in Cargo	NO		DSME
	Typical Detail	Rev 60, IFC					NO					Ladders in Cargo	NO		DSME
	Typical Detail	Rev 60, IFC					NO					Ladders in Cargo	NO		DSME
	Typical Detail	Rev 60, IFC					NO					Ladders in Cargo	NO		DSME
	Typical Detail	Rev 60, IFC					NO					Ladders in Cargo	NO		DSME
	Typical Detail	Rev 60, IFC					NO					Ladders in Cargo	NO		DSME
	Typical Detail	Rev 60, IFC					NO					Ladders in Cargo	NO		DSME
	Typical Detail	Rev 60, IFC					NO					Ladders in Cargo	NO		DSME
	Typical Detail	Rev 60, IFC					NO					Ladders in Cargo	NO		DSME
	Typical Detail	Rev 60, IFC					NO					Ladders in Cargo	NO		DSME

MS8-7 (Amended) Todd Production Inventory (Book 06)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engr Contractor	
1440-50-MR-DG-230-5001	PQ Steel Mooring Line Config	Rev 3; IDE		9/19/03	DM/RSK		NO		Rev 3; IDE	DM/RSK		Mooring Lines	NO		Halliburton KBR	
	Spiral Strand Cross Sectionq	Rev 1; As-Built		6/23/03	TD		NO		Rev 1; As-Built			Mooring Lines	NO		ScanRope	
	Open Socket	Rev 3; As-Built					NO					Mooring Lines	NO		ScanRope	
	Socket Pin	Rev 2; As-Built		4/21/04	TD		NO		Rev 2; As-Built	TD		Mooring Lines	NO		ScanRope	
	Socket Pin Horse Shoe Clip	Rev 0; As-Built		6/20/03	TD		NO		Rev 0; As-Built	TD		Mooring Lines	NO		ScanRope	
	Horse Shoe Clip Locking Bar	Rev 0; As-Built		6/20/03	TD		NO		Rev 0; As-Built	TD		Mooring Lines	NO		ScanRope	
	Socket Back Plate	Rev 1; As-Built		10/10/03	TD		NO		Rev 1; As-Built	TD		Mooring Lines	NO		ScanRope	
	Open Socket Anode	Rev 0; As-Built		10/27/03	TD		NO		Rev 0; As-Built	TD		Mooring Lines	NO		ScanRope	
	Closed Socket	Rev 2					NO					Mooring Lines	NO		ScanRope	
	Closed Socket Anode	Rev 3; IFR		10/27/03	TD		NO		Rev 3; IFR	TD		Mooring Lines	NO		ScanRope	
	Connecting Plate	Rev 2					NO					Mooring Lines	NO		ScanRope	
	Connecting Plate Anode	Rev 0; IFR		1/23/04	TD		NO		Rev 0; IFR	TD		Mooring Lines	NO		ScanRope	
	Connecting Plate Socket Interface	Rev 0; As-Built		1/23/04	TD		NO		Rev 0; As-Built	TD		Mooring Lines	NO		ScanRope	
	Assembly Chains	Rev 2	10/14/03	1/26/04			NO		Rev 2			Mooring Lines	NO		Vicinay Cadenas SA	
	Studless Common Link		10/14/03				NO					Mooring Lines	NO		Vicinay Cadenas SA	
	Studless Common Link		10/14/03				NO					Mooring Lines	NO		Vicinay Cadenas SA	
	Joining Shackle Pile Type	Rev 2	10/14/03	12/19/03			NO		Rev 2			Mooring Lines	NO		Vicinay Cadenas SA	
	Special End Link		10/14/03				NO					Mooring Lines	NO		Vicinay Cadenas SA	
	Shackle D Type Socket	Rev 3	10/14/03	12/19/03			NO					Mooring Lines	NO		Vicinay Cadenas SA	
1440-50-MR-DG-230-5020	Grp 2 Mooring Suciton Anchor	Rev 3; Revised after IFC		10/15/04	CR		NO		Rev 3; Revised after IFC	CR		Suction Anchoring	NO		KBR	ABS Approved
1440-50-MR-DG-230-5021	Grp 2 Mooring Suciton Anchor	Rev 3; Revised after IFC		10/15/04	CR		NO		Rev 3; Revised after IFC	CR		Suction Anchoring	NO		KBR	ABS Approved
1440-50-MR-DG-230-5022	Grp 2 Mooring Suciton Anchor	Rev 4; Revised after IFC					NO					Suction Anchoring	NO		KBR	ABS Approved
1440-50-MR-DG-230-5023	Grp 2 Mooring Suciton Anchor	Rev 3; Revised after IFC		10/15/04			NO		Rev 3; Revised after IFC			Suction Anchoring	NO		KBR	ABS Approved
1440-50-MR-DG-230-5024	Grp 2 Mooring Suciton Anchor	Rev 3; Revised after IFC		10/15/04			NO		Rev 3; Revised after IFC			Suction Anchoring	NO		KBR	ABS Approved
1440-50-MR-DG-230-5025	Grp 2 Mooring Suciton Anchor	Rev 2; Revised after IFC		7/22/04	JS		NO		Rev 2; Revised after IFC	JS		Suction Anchoring	NO		KBR	ABS Approved
1440-50-MR-DG-230-5026	Grp 2 Mooring Suciton Anchor	Rev 3; Revised after IFC					NO		Rev 3; Revised after IFC			Suction Anchoring	NO		KBR	ABS Approved
	Cast Suction Anchor Padeye	Rev 0; As-Built	7/10/03	1/27/04								Suction Anchoring	NO		Sheffield Forgemasters	ABS Approved
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04									Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04									Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04									Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04									Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Pile #1	Final Survey	2/15/05									Sucction Anchoring	NO		Kiewit Offshore	
	Pile #1		2/17/05	3/23/05								Sucction Anchoring	NO		Kiewit Offshore	

MS8-7 (Amended) Todd Production Inventory (Book 06)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engr Contractor	
	Pile #1		2/17/05	3/23/05								Sucction Anchoring	NO		Kiewit Offshore	
	Pile #1		2/17/05	3/23/05								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Pile #2	Final Survey	2/15/05	3/23/05								Sucction Anchoring	NO		Kiewit Offshore	
	Pile #2		2/17/05	3/23/05								Sucction Anchoring	NO		Kiewit Offshore	
	Pile #2		2/17/05	3/23/05								Sucction Anchoring	NO		Kiewit Offshore	
	Pile #2		2/17/05	3/23/05								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Pile #3	Final Survey	2/15/05	3/23/05								Sucction Anchoring	NO		Kiewit Offshore	
	Pile #3		2/17/05	3/23/05								Sucction Anchoring	NO		Kiewit Offshore	
	Pile #3		2/17/05	3/23/05								Sucction Anchoring	NO		Kiewit Offshore	
	Pile #3		2/17/05	3/23/05								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Pile #4	Final Survey	2/15/05	3/7/05								Sucction Anchoring	NO		Kiewit Offshore	

MS8-7 (Amended) Todd Production Inventory (Book 06)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engr Contractor	
	Pile #4		2/11/05	3/23/05								Sucction Anchoring	NO		Kiewit Offshore	
	Pile #4		2/11/05	3/23/05								Sucction Anchoring	NO		Kiewit Offshore	
	Pile #4		2/11/05	3/23/05								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Pile #5	Final Survey	2/15/05	3/7/05								Sucction Anchoring	NO		Kiewit Offshore	
	Pile #5		2/11/05	3/23/05								Sucction Anchoring	NO		Kiewit Offshore	
	Pile #5		2/11/05	3/23/05								Sucction Anchoring	NO		Kiewit Offshore	
	Pile #5		2/11/05	3/23/05								Sucction Anchoring	NO		Kiewit Offshore	
	Pile #5		2/11/05	3/23/05								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Pile #6	Final Survey	3/17/05									Sucction Anchoring	NO		Kiewit Offshore	
	Pile #6		3/17/05	3/23/05								Sucction Anchoring	NO		Kiewit Offshore	
	Pile #6		3/17/05	3/23/05								Sucction Anchoring	NO		Kiewit Offshore	
	Pile #6		3/17/05	3/23/05								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	

MS8-7 (Amended) Todd Production Inventory (Book 06)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engr Contractor	
	Pile #7	Final Survey	2/15/05									Sucction Anchoring	NO		Kiewit Offshore	
	Pile #7		2/11/05	3/23/05								Sucction Anchoring	NO		Kiewit Offshore	
	Pile #7		2/11/05	3/23/05								Sucction Anchoring	NO		Kiewit Offshore	
	Pile #7		2/11/05	3/23/05								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Pile #8	Final Survey	3/3/05									Sucction Anchoring	NO		Kiewit Offshore	
	Pile #8		3/3/05	3/23/05								Sucction Anchoring	NO		Kiewit Offshore	
	Pile #8		3/3/05	3/23/05								Sucction Anchoring	NO		Kiewit Offshore	
	Pile #8		3/3/05	3/23/05								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Pile #9	Final Survey	3/1/05									Sucction Anchoring	NO		Kiewit Offshore	
	Pile #9		3/1/05	3/23/05								Sucction Anchoring	NO		Kiewit Offshore	
	Pile #9		3/1/05	3/23/05								Sucction Anchoring	NO		Kiewit Offshore	
	Pile #9		3/1/05	3/23/05								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	

MS8-7 (Amended) Todd Production Inventory (Book 06)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engr Contractor	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Pile #10	Final Survey	3/3/05									Sucction Anchoring	NO		Kiewit Offshore	
	Pile #10		3/3/05	3/23/05								Sucction Anchoring	NO		Kiewit Offshore	
	Pile #10		3/3/05	3/23/05								Sucction Anchoring	NO		Kiewit Offshore	
	Pile #10		3/3/05	3/23/05								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Pile #11	Final Survey	3/8/05									Sucction Anchoring	NO		Kiewit Offshore	
	Pile #11		3/8/05	3/23/05								Sucction Anchoring	NO		Kiewit Offshore	
	Pile #11		3/8/05	3/23/05								Sucction Anchoring	NO		Kiewit Offshore	
	Pile #11		3/8/05	3/23/05								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Pile #12	Final Survey	3/18/05									Sucction Anchoring	NO		Kiewit Offshore	
	Pile #12		3/18/05	3/23/05								Sucction Anchoring	NO		Kiewit Offshore	
	Pile #12		3/18/05	3/23/05								Sucction Anchoring	NO		Kiewit Offshore	
	Pile #12		3/18/05	3/23/05								Sucction Anchoring	NO		Kiewit Offshore	

Analysis of MS8 Books 1-6 Drawings

Todd Book No.	Total Drawings in Book	Dated Pre-5/1/05	No Date	Dated Post-5/1/05	Notes
1	430	381 (89%)	6 (1%)	**43* (10%)**	All by Mustang
2	520	366 (70%)	3 (1%)	**151* (29%)**	All by Mustang
3	441	387 (88%)	54 (12%)	**0**	437 by DSME; 6 by GVA
4	248	150 (60%)	85 (34%)	**13* (6%)**	All by DSME
5	330	267 (81%)	58 (18%)	**5* (1%)**	All by DSME
6	135	115 (85%)	20 (15%)	**0**	None by DSME
Total Drawings in Books 1-6 = 2,104					
Total Drawings in Books 1-6 Dated Pre-5/1/05 = 1,666 (79%)					
Total Drawings in Books 1-6 with No Date = 226 (11%)					
Total Drawings in Books 1-6 Dated Post-5/1/05 = 212 (10%)					

Analysis of MS8 Books 1-6 Drawings

*Analysis of 43 - BOOK 1 Drawings dated post-5/1/05:		
Date	**No. with that Date**	**Drawing Status**
5/2/06	1	IFC
8/25/06	3	1=IFC; 2=Revised after IFC
8/29/06	1	IFC
12/6/06	32	17=Revised after IFC; 15=IFC
1/4/07	1	Revised after IFC
6/30/07	4	Revised after IFC
5/7/08	1	Revised after IFC

Analysis of MS8 Books 1-6 Drawings

*Analysis of 151 - BOOK 2 Drawings dated post-5/1/05:		
Date	**No. with that Date**	**Drawing Status**
6/1/05	1	Revised after IFC
6/28/05	1	Revised after IFC
11/8/05	5	IFC
11/10/05	2	IFC
11/18/05	2	Revised after IFC
11/25/05	1	Revised after IFC
1/8/06	1	Revised after IFC
1/13/06	2	Revised after IFC
5/15/06	4	IFC
5/18/06	3	1=Revised after IFC; 2=IFC
6/7/06	2	Revised after IFC
8/18/06	3	2=Revised after IFC; 1=IFC
8/23/06	2	IFI
8/25/06	4	2=Revised after IFC; 2=IFC
8/31/06	2	IFC
9/6/06	1	Revised after IFC
9/8/06	3	Revised after IFC
11/3/06	1	Revised after IFC
12/6/06	47	1=IFC; 2-AF;3=Revised after IFC; 41=AF/AC
1/25/07	6	As-Built
6/21/08	3	1=Revised after IFC; 2-AF/AC
7/1/08	1	AF
8/19/08	3	IFC
9/9/08	1	IFC
9/29/08	5	1=Revised after IFC; 4=IFC
10/6/08	1	IFC
10/8/08	1	IFC
10/24/08	8	3=Revised after IFC; 5=IFC
10/26/08	1	Revised after IFC
11/18/08	2	1=Revised after IFC; 1=IFC
11/19/08	2	Revised after IFC
12/1/08	9	Revised after IFC
2/1/09	1	AF/AC
2/9/09	1	Revised after IFC
3/20/09	2	Revised after IFC
4/20/09	2	IFC
4/23/09	2	Revised after IFC
4/28/09	2	IFC
5/18/09	3	IFC
6/1/09	5	2=Revised after IFC; 3=IFC
6/3/09	1	Revised after IFC
6/11/09	1	Revised after IFC
7/16/09	1	IFC

Analysis of MS8 Books 1-6 Drawings

*Analysis of 13 - BOOK 4 Drawings dated post-5/1/05:		
Date	**No. with that Date**	**Drawing Status**
4/5/07	6	BP Final Handover
4/27/07	6	BP Final Handover
10/31/07	1	Revised after final Handover

Analysis of MS8 Books 1-6 Drawings

*Analysis of 5 - BOOK 5 Drawings dated post-5/1/05:		
Date	**No. with that Date**	**Drawing Status**
4/5/07	3	Final Handover
8/25/09	2	IFC

Kenneth Abbott

From: Duff, Barry C [Barry.Duff@bp.com]
Sent: Tuesday, September 02, 2008 11:14 AM
To: Abbott, Ken (SWIFT); Ken Abbott (Home)
Subject: FW: P&IDs For Operations

From: Duff, Barry C
Sent: Friday, August 15, 2008 7:51 AM
To: Naseman, Bill E; Broman, William H(HOU) (william.broman@bp.com)
Subject: FW: P&IDs For Operations

Bill/Bill,

Per other e-mails, Tinikka has been asked by the Operations Document Control person (Christy), to provide all the Subsea P&IDs **regardless of their status** (e.g, complete or not complete,handed over or not handed over). Christy will not say who has made the request, but we believe it is coming from Nita Oza to support an IM Evaluation she is leading. The reason this is not a straight forward request is the document number scheme is so fundamentally flawed that all drawings are grouped under the document type DWG vs. Mechanical, Electrical, P&ID, PFD etc).

Some back ground on the P&ID Request from Operations. As you can see from the note below. The P&IDs for Subsea are not complete have have not been approved or handed over to Operations.

The current procedures are out of date. However in principle, the project document control person (Tinikka), function is to facilitate the handover of approved and final documents to the Operator (BP). For Atlantis this is Christy in Alastair's group.

The risk in turning over drawings that are not complete are:

1) The Operator will assume the drawings are accurate and up to date. This could lead to catastrophic Operator errors due to their assuming the drawing is correct. Turning over incomplete drawings to the Operator for their use is a fundamental violation of basic Document Control, the IM Standard and Process Safety Regulations.

2) Having the project document control person turnover drawings that are not complete, places the onus on her that they are the most current version. Currently there are **hundreds if not thousands** of Subsea documents that have never been finalized, yet the facilities have been turned over. In some cases, Tinikka does not have all the versions. Turning over the version she has, runs the risk of the wrong version being used.

The point here is that even if we condoned handing over documents that were not approved/handed over, we run the risk of not handing over the most current version, (the one theoretically closest to being the most accurate).

To re-iterate, it is fundamentally wrong to turn over documents to Operations (for Operations use and purposes), before they have been formally finalized and Handed Over to Operations.

I have instructed Tinikka to not honor this request and to refer them to me. I may require both of your support in responding to this request.

Please contact me if you have any questions.

Best Regards,

Barry C. Duff

BP DW GoM Production
Atlantis Subsea Team
11700 Old Katy Road, Suite 150
Office number 4.64
Houston, Texas 77079
Office: +1 (281) 249-1510
Cell: +1 (713) 408-1933
Fax: +1 (281) 249-4323
Together, we will make Atlantis the safest, cleanest, most reliable and best performing asset!

From: Curtis, Tinikka (NES)
Sent: Thursday, August 14, 2008 4:58 PM
To: Vass, Malcolm (Technip)
Cc: Duff, Barry C
Subject: RE: P&IDs For Operations

Hi Malcom,

Thank-you very much for providing updated status regarding the P&ID request from the Operations group.

Thanks,

Tinikka Curtis
281-249-8978
Tinikka.Curtis@bp.com

-----Original Message-----
From: McVass@technip.com [mailto:McVass@technip.com]
Sent: Thursday, August 14, 2008 4:41 PM
To: Curtis, Tinikka (NES)
Subject: Fw: P&IDs For Operations

Tinikka,

With respect to the Atlantis P&IDs. We are currently reviewing all P&IDs with the objective of providing Operations a package of as-built drawings. This will include:

Subsea architectural drawings,
Subsea piping / flowline schematics,
Subsea P&IDs.

This package should be available within the next 2 to 3 weeks, allowing for routing through our document control process.

Hope this helps.

Regards,

Malcolm Vass
Technip PM - BP Atlantis
281 249 1934

Summary of Public Record

February 6, 1985 -- BP fined £15,000 on safety charge after North Sea fire.

March 22, 1988 -- British Petroleum fined £750,000 after the deaths of three men in two separate explosions at the company's refinery at Grangemouth, Scotland.

December 22, 1988 -- British Petroleum and others were fined more than £40 million by the European Commission for participating in two illegal price-fixing and market-sharing cartels.

October 24, 1990 -- BP Oil to pay $2.3 million fine for dumping toxic waste into Delaware River; EPA said BP had violated waste water discharge permit 6,500 times.

July 16, 1991 -- BP fined a record $135,000 for violations leading to fatal explosion at Ferndale, Washington refinery; explosion killed one and injured six others.

December 18, 1992 -- BP Exploration fined £10,000 for explosion on North Sea drilling platform injuring two workmen.

April 22, 1994 -- BP Chemicals fined £200,000 for violations resulting in huge blaze at Grangemouth docks two years ago; one man was killed and three others burned.

August 25, 1994 -- BP was fined $2.6 million by the Colombian environmental industry for pollution of Colombian river.

October 19, 1998 -- BP was fined £125,000 for attempting to manipulate the Brent Oil Futures Market; BP provided inaccurate information and failed to fully cooperate with the investigation.

November 4, 1998 -- BP Oil New Zealand fined the maximum fine of $200,000 after discharging 9,000 liters of diesel into a stream in New Zealand; the fine was lowered to $4,000 in environmental court.

JANUARY, 1999 -- TIME PERIOD CHARGED IN THIS CRIMINAL INFORMATION BEGINS.

May 5, 1999 -- BP paid $1.4 million civil penalty and entered Consent Decree in U.S. District Court in Toledo, Ohio to resolve Clean Air Act violations.

May 11, 1999 -- BP fined the maximum £20,000 over explosion and fire on offshore gas platform.

February 3, 2000 -- Alaska -- BP fined $15.5 million and sentenced to 5 years probation pursuant to settlement agreement for failing to report dumping hazardous materials at North Slope Alaska oil field; described as one of the worst environmental crimes in the history of North Slope oil development. "We are committed to insuring this never happens again," said BP spokesman.

April 17, 2000 -- BP agreed to pay $32 million to resolve claims under the False Claims Act that corporation underpaid royalties due for oil produced on federal and Indian leases since 1988.

June 14, 2000 -- BP fined £15,000 for unlawfully polluting Allan River in Scotland.

June 25, 2000 -- BP fined $10 million for air pollution violations at the US Refineries; ordered to spend $500 million to reduce emissions.

January 19, 2001 -- BP to pay $9.5 million civil penalty under consent decree with U.S. District Court, Hammond, Indiana, to resolve allegations of Clean Air Act violations at eight refineries owned by BP. Refineries involved include Texas City, Texas.

October 13, 2001 -- BP fined over £200,000 for exposing workers to gas leaks on offshore gas platform.

January 19, 2002 -- BP fined £1 million after admitting safety breaches at petrochemical plant in Grangemouth, Scotland; BP expressed "unqualified regret" for the incidents.

June 6, 2002 -- Alaska -- BP fined $300,000 for failing to meet leak detection standards on oil pipelines in Alaska.

June 22, 2002 -- BP fined €35,000 by European Commission for providing misleading information on merger.

February 1, 2003 -- Alaska -- Alaska state regulators fine BP maximum $7,000 fine for explosion injuring a worker, following a previous on-site accident killing another worker. Previous December, U.S. Judge began requiring BP to provide unrestricted access to Alaskan operations to verify compliance with federal, state and local environmental health and safety laws while on probation, noting that BP had been on probation since 2000.

November 17, 2004 -- BP fined £200,000 for gas leak on North Sea oil platform.

January 18, 2005 -- Alaska -- BP fined $1.42 million for safety violation in Prudhoe Bay oilfield in Alaska.

MARCH 23, 2005 -- TEXAS CITY REFINERY EXPLOSION.

December 5, 2005 -- BP fined £25,000 after diesel spill into North Sea. A BP spokesman said, "We have learned lessons."

April 25, 2006 -- BP fined $2.4 million for unsafe operations at Oregon, Ohio refinery; OSHA identified a number of violations similar to those found during investigation of fatal explosion last year at Texas City, Texas.

February 21, 2007 -- BP ordered to carry out £320,000 clean-up operation at Luton Petral Station after pollution found in ground water supplies 1,000 times above acceptable drinking standards.

June 2, 2007 -- BP Products North America, Inc. fined $869,150 for leaky underground storage tanks at 8 locations in Michigan. Spokesman for the Department of Environmental Quality said, "Usually owners try to work with us, but in this case it hasn't happened."

October 25, 2007 -- BP to pay $303.5 million in fines, penalties and restitution for manipulation of propane market.

October 25, 2007 -- Alaska-- BP to pay $12 million in fines and 3 years probation for Alaskan oil pipeline spills.

Subject: 2.6.85 bp pleads guilty aberdeen
Date: Friday, November 23, 2007 12:12 PM
From: russell@corporatecrimereporter.com
To: <dlperry@perryhaas.com>
Conversation: 2.6.85 bp pleads guilty aberdeen

February 6, 1985
BP fined 15,000 pounds on safety charge after North Sea fire

The Guardian reported that BP was fined pounds 15,000 at Aberdeen Sheriff Court yesterday for a blow-out on its Forties Delta platform in the North Sea 18 months ago.

Eleven men suffered burns in the flash fire which lasted for nine hours.

Ray Craig, prosecuting, said the fire followed a release of gas from the well bore hole. Previous drilling by the company in 1971 had encountered a blow-out at a depth of 536 metres close to where Forties Delta now stands.

Seismic tests had also shown the potential of shallow gas-bearing sands in the area of the platform.

Craig said that there had been a shift change on the drill floor and the blow-out happened about 20 minutes later. 'It appeared from summary evidence that very little in the way of checks had been made for some time before that,' he added.

The checks on the pressure were, to say the least, most unsatisfactory and slack practice had developed. New methods had since been introduced.

It was clear, said Mr Craig, that immediately before the blow-out BP staff failed to maintain their own 'inadequate' procedures. There was no evidence to say what caused the ignition of the gas. It could have been a spark from broken glass or a stone thrown up from the well.

'BP took immediate steps to effect correct drilling procedures and co-operated fully with the Department of Energy investigation.

Mr Jim Tierney, defending, said BP had pleaded guilty.

'For whatever reason, the information assimilated in 1971 was not present 12 years later when the company was operating the well. The information had been overlooked at a planning meeting and because of that the accident occurred.'

Subject: 3.22.88 bp fined UK worker deaths
Date: Friday, November 23, 2007 12:16 PM
From: russell@corporatecrimereporter.com
To: <dlperry@perryhaas.com>
Conversation: 3.22.88 bp fined UK worker deaths

BP fined 750,000 pounds for deaths

March 22 1988

The Times of London reported that British Petroleum was fined a total of Pounds 750,000 after the deaths of three men in two separate explosions at the company's refinery at Grangemouth, near Falkirk.

BP pleaded guilty at the High Court in Edinburgh to two charges under the Health and Safety at Work Act.

The fines are the highest imposed since the legislation was introduced in 1974.

The court was told that the two blasts were the result of major failures in BP's safety procedure. One blast was heard 20 miles away. A 20-tonne steel plate vessel was shattered and part of it, weighing three tonnes, was thrown more than half a mile on the foreshore of the river Forth.

The force of the explosion was equal to 90 kg of TNT.

The court imposed a fine of Pounds 250,000 for the second. Lord Justice Allanbridge said they represented a serious breach of employer's legislative duties.

The court was told that in the first incident, on March 13 last year, BP Oil (Grangemouth) Refinery Limited failed to ensure a section of the flare system was drained of gases and hydrocarbon liquids and was effectively isolated. Flammable liquid and gases escaped an ignited.

Lord Cameron of Lochbroom, the Lord Advocate, said workmen had started to undo bolts and saw a clear liquid dripping out. They were told it was safe to continue, but when they resumed work a torrent of liquid poured out and began vaporizing. An explosion followed and the fire burned for two days.

Mr James Bruce, 40, of Cowdenbeath, and Philip Mellon, 35, of Shotts, were killed. Mr Allan Bissett, of Falkirk, and Ian Taylor, of Bridge of Don, Aberdeen, were severely injured.

In the second incident, on March 22 last year, the company admitted that it failed to maintain a safe system of work at a hydrocracker unit which exploded, killing Mr George Spiers, aged 52, a crane driver, of Airdrie.

Lord Cameron said that an inquiry after the second blast found trip mechanisms on control valves were not working.

He said that there should have been an audible alarm and a warning light on a control panel, but the trip system had been disconnected because of problems with false alarms. He said that with its disconnection, BP had removed an important and essential safety feature.

Mr James McGhie, QC, for BP, said the company agreed it had fallen short of its own high safety standards.

Subject: 12.22.88 plastic price fixing
Date: Friday, November 23, 2007 12:18 PM
From: russell@corporatecrimereporter.com
To: <dlperry@perryhaas.com>
Conversation: 12.22.88 plastic price fixing

December 22 1988, Thursday

The Times of London reported that Imperial Chemical Industries, British Petroleum and Shell, with 20 other leading petrochemical companies, were fined more than Pounds 40 million by the European Commission yesterday for participating in two illegal price-fixing and market-sharing cartels between 1980 and 1984.

The fines were announced after a five-year investigation by the Commission's competition watchdog, responsible for enforcing the competition provisions of the Treaty of Rome, which involved a series of dawn raids on company premises throughout the European Economic Community.

The cartels were operated in the low-density polyethylene sector, used to make film packaging, and the PVC sector, used for a variety of construction products, soft furnishings and toys, where the companies had the majority of the market.

The cartels first came to light in October 1983, during a separate investigation into anti-competitive practices in the polypropylene sector, as a result of which 15 petrochemical companies were also fined.

'The Commission has taken its decision because of the clear infringement of the Treaty, ' said Mr Peter Sutherland, the outgoing Competition Commissioner. 'It is particularly important in the context of 1992 to ensure that competition in the Common Market is not distorted, otherwise restricted behaviour and cartels will fragment the market and raise costs for other producers and consumers.' The Commission said that the PVC cartel had been established in October 1980, in response to a sudden contraction in demand following the boom year of 1979.

Confiscated documents demonstrated that the cartel had been operating a quota system until the middle of 1984.

BASF, the West German company, was given the largest fine of about Pounds 7 mi llion. ICI, Shell and BP were fined Pounds 4 million, Pounds 1.1 million and Pounds 50,000 respectively.

Subject: 10.24.90 bp fined for delaware dump
Date: Friday, November 23, 2007 12:31 PM
From: russell@corporatecrimereporter.com
To: <dlperry@perryhaas.com>
Conversation: 10.24.90 bp fined for delaware dump

10.24.90

The Associated Press:

BP Oil Corp will pay a $2.3 million fine for dumping waste from its Marcus Hook refinery into the Delaware River.

The fine, under the Clean Water Act, was the second largest assessed by the US Government for water pollution. In 1977 US Steel was fined $US2.9 million ($A3.73 million) for pollution from its plant in Gary, Indiana.

The Government sued BP Oil in 1986, prompting the company to replace its waste water treatment plant with a new $US25 million plant, which began operating last year.

BP Oil had been discharging excess oil and grease, ammonia, solids, sulphides and various chemicals that reduced the amount of oxygen in the water, changed its acidity and sickened and killed fish, authorities said.

The Environmental Protection Agency said BP Oil had violated its wastewater discharge permit 6,500 times from 1979 until the present.

"Violations were numerous. This was not just a one-shot deal," said Edwin Erickson, regional administrator of the EPA.

The refinery is located on the river about 3km north of the Delaware border. It produces gasoline, jet fuel, diesel oil and other petroleum products.

The manager of human resources for BP Oil, Ms Joann Elser, said the new treatment plant was operating at 99.6 per cent efficiency.

"We're working on it every day," she said. "It's gotten a lot of people's attention here.

"We've been here a long time, we're firmly entrenched in the community," she said. "We're concerned about the quality of water going into the river." Ammonia released from the refinery was toxic to fish and changed its acidity, the Government said. Oil and grease can cause cancer in fish and can make them unhealthy to eat, the EPA said.

Sulphides are also hazardous to fish and phenolic compounds - a variety of chemicals from refineries - can lower the amount of oxygen available to fish and other aquatic life.

The EPA described BP Oil's discharges as "a major contributor to the pollution problem in the river".

Subject: 7.16.91 bp fined for state of washington death
Date: Friday, November 23, 2007 12:34 PM
From: russell@corporatecrimereporter.com
To: <dlperry@perryhaas.com>
Conversation: 7.16.91 bp fined for state of washington death

7.16.91

Seattle Post reported:

A fatal explosion at a Ferndale oil refinery last winter resulted from violations of the refiner's own safety rules and its desire to "short cut" its procedure to save time, says a state agency that fined the company a record $135,000 for the violations.

A state Department of Labor and Industries investigation said British Petroleum didn't completely seal off a crude-petroleum distillation unit or purge it of potentially explosive gases, in accordance with its own procedures, before the explosion and fire Jan. 19 that killed one maintenance worker and injured six others.

"We feel the company consciously decided to short cut its own safety procedures to decrease production down-time," said Brian Dirks, a Labor and Industries spokesman.

The company has admitted responsibility for the accident, although it denied taking shortcuts and may contest conclusions reached by a Department of Labor and Industries investigation. The fine is the largest ever levied by the agency, Dirks said.

The department cited the refiner for 20 violations of safety procedures, the state's and its own. The most serious violation involved a crude-oil distillation unit undergoing repairs before the blast.

The unit was shut down in November for maintenance work, but was found to be clogged with carbon deposits when it was restarted in early January, according to the state.

The company decided to shorten the normal five-day shutdown process for the machinery to three days, to prevent crude oil from draining out. To speed things up, the company left some lines and chambers unsealed, contrary to its own procedures. The state said the refiner wrongly left some of the unit's heaters on "pilot" to keep material in the unit in liquid form.

On Jan. 19, when workers removed a block from part of the line to complete repairs, internal pressure pushed flammable gases into the distillation unit. The gases, ignited by the lighted heaters, exploded, fatally injuring Jeff Heidingsfelder, 34, of Bellingham. Heidingsfelder, a maintenance worker employed by a subcontractor, died of burns several hours later in a Seattle hospital.

Of the six other injured workers, four were treated in local hospitals and released and two were admitted with burns to a Bellingham hospital. Three of the six were British Petroleum employees, and three worked for a subcontractor.

The fact that the refiner didn't purge gases from the distillation unit and an adjoining tower "is bypassing a basic precaution in the industry," Dirks said. "The fact that it wasn't done caused the presence of (explosive) hydrocarbons and that was really behind the explosion."

The investigation results were announced last week. British Petroleum, which bought the refinery from Mobil Oil nearly three years ago, has

admitted in court documents and in a recent public statement that it was "significantly" at fault for the explosion.

But British Petroleum spokesman Jerry Eklund denied the company took shortcuts. He said British Petroleum will take issue with the state's contention that there were "willful" safety violations at the refinery.

"The implication of willful is that we purposely did something, or didn't do something, to purposely cause somebody some harm. That's just ludicrous."

He said the company will meet with Labor and Industries to clarify the state's findings, and "there's a good likelihood that some, if not all, of them will be appealed."

But Eklund said the company, having admitted responsibility, will attempt out-of-court settlements of lawsuits brought by Heidingsfelder's family and by injured worker Rock Strickler.

Subject: 12.18.92 bp fined for serious injuries
Date: Friday, November 23, 2007 12:37 PM
From: russell@corporatecrimereporter.com
To: <dlperry@perryhaas.com>
Conversation: 12.18.92 bp fined for serious injuries

The Glascow Herald reported:

BP Exploration was fined £10,000 yesterday over an explosion on a platform in the North Sea, in which two workmen were seriously injured.

The company admitted at Aberdeen Sheriff Court contravening the Health and Safety at Work Act. Gas had escaped while work was going on to dismantle a choke valve, weighing three-quarters of a ton, earlier this year.

The court was told that, after a "bang", pieces of the valve and pipework struck Mr Joseph Johnston and Mr David Jeffels. Three other workers on the Miller platform suffered shock. All were employed by contractors.

Mr Sandy Hutchison, depute fiscal, said Mr Johnston had a cracked rib and a collapsed lung and Mr Jeffels required surgery for an impacted skull.

The accident happened on June 20, only 12 days after the platform started to export oil.

Included in the charge was that BP failed to ensure gas was vented from the valve, and failed to ensure a work permit was properly completed.

Mr Peter Littlejohn, for BP, said that as a result of either a misunderstanding or from some other inexplicable reason, crucial instructions on the permit that the contractor's foreman should liaise with the BP production supervisor appeared not to have been passed on to those working on the valve.

When a fitting on the valve was hit with a hammer, it was released at force, due to a build up in pressure over a relatively short period of time.

There were written instructions, available to contractors, that all bolting should be slackened first as a safeguard against any trapped residual pressure. Had these instructions been followed, it was unlikely the accident would have happened.

Subject: 4.22.94 BP fined for injuries
Date: Friday, November 23, 2007 12:44 PM
From: russell@corporatecrimereporter.com
To: <dlperry@perryhaas.com>
Conversation: 4.22.94 BP fined for injuries

BP Chemicals has been fined £ 200,000, and ordered to pay £ 10,000 compensation to each of three workers who were seriously injured in a huge blaze at Grangemouth docks two years ago.

One man died when scaffolding covering the surface of a large spherical storage tank under construction caught fire - probably ignited by two halogen lamps which should not have been in use.

The dead man was one of four men working within a massive plastic sheet which cocooned the scaffolding.

The high wind funnelled the flames round the structure and hundreds of feet into the air.

Details of the horrific burns suffered by one of the injured, and the extent of his hospital treatment, were given at Falkirk Sheriff Court yesterday when BP Chemicals appeared on indictment before Sheriff Albert Sheehan.

The company admitted that on 10 February 1992 it failed to provide adequate means of escape to ensure that sub-contractors' employees were not exposed to risks to their health and safety.

It had provided only one set of continuous ladders to provide a way out of the scaffolding.

As a result, John Cook, 26, of Glenbervie Road, Grangemouth, employed by local company Wilkie-Hooke, died in the fire.

Three others, Brian Taylor, 47, of Hull, employed by Aaronite of Nottinghamshire, and Rudy Peleman, 35, of Milford Haven in Wales, and Hugo Scheelen, 40, of Bolcholt in Belgium - both employed by Belgian-based Recticel Insulation Contracting NV - were injured.

David Stewart, solicitor for BP, told the court that the "principal actor" in the tragedy, sub-contractors Recticel, now known as Recino NV, could not be prosecuted because it was a foreign company.

"It may be thought of as something of an anomaly that a company in the European Union can escape criminal prosecution."

The court was told that Mr Taylor, a married man with two children, who had full-thickness burns to 50 per cent of his body would never work again.

George Scott, procurator-fiscal, said that in the blaze Mr Taylor had also suffered extensive damage to his lungs because of extensive inhalation of toxic fumes.

"He has had some 20 operations for skin grafting, and reconstruction of his features."

Mr Scott added: "He remains in almost constant pain, and unfortunately still has to look forward to a number of future operations. "His hands are deformed, and he does not sleep well at night because of the trauma of the incident."

The other two injured men were still receiving treatment for their injuries.

Recticel was brought in by BP to spray polyurethane foam onto the 22-metre diameter storage tanks.

The fiscal said it appeared that the fire had been caused by two high-powered halogen lamps falling over and igniting scaffolding or foam at the base of the sphere.

Mr Stewart told the court that BP had designated the project a "non-heat area" - banning smoking and heat or spark generating equipment.

It had not been anticipated that a contractor would bring in a potential ignition source, or leave it unattended.

No one had imagined the possibility of such a fire taking place.

The sheriff said that while he would take into account the fact that BP Chemicals had had a good safety record in over 30 years of existence, the incident had been "extremely serious."

It had been quite clear that as BP had anticipated there could be a fire, it should have taken steps to minimise the effects if there was one.

Sheriff Sheehan said that he was unfortunately precluded by law from ordering compensation to be paid to relatives of a deceased.

Compensation for those injured - which could only be " a token amount" in order not to prejudice any civil claims - would given immediate access to money.

Subject: 8.25.94 Colombia fines BP for polluting river
Date: Friday, November 23, 2007 12:49 PM
From: russell@corporatecrimereporter.com
To: <dlperry@perryhaas.com>
Conversation: 8.25.94 Colombia fines BP for polluting river

Latin America Weekly Report August 25, 1994

* BP was fined US$ 2.6m by the Colombian environment ministry for a 1991 incident in which rivers were polluted in Casanare department, where the company is developing the huge Cusiana field.

Subject: 10.16.98 UK fines BP for attempting to manipulate futures contracts
Date: Friday, November 23, 2007 12:53 PM
From: russell@corporatecrimereporter.com
To: <dlperry@perryhaas.com>
Conversation: 10.16.98 UK fines BP for attempting to manipulate futures contracts

Platts Oilgram News reported:

BP has been fined GBP 125,000 by the IPE for attempting to manipulate the Brent futures contract, the IPE said Oct 15. The fine covered three breaches of IPE rules. First, BP was found to have made a false cross trade for 500 lots in the July 1998 Brent futures contract and to have manipulated or attempted to manipulate the settlement price of the July 1998 Brent futures contract. Secondly, BP provided inaccurate information, failed to co-operate fully with the IPE's investigation-until the involvement of BP senior trading management. Thirdly, in breaching the first two rules, it brought the IPE into disrepute. BP will in addition pay the IPE $ 16,760, the sum gained as a result of the events that took place, and the IPE's costs.

Subject: 11.4.98 New Zealand fines BP for spill
Date: Friday, November 23, 2007 12:56 PM
From: russell@corporatecrimereporter.com
To: <dlperry@perryhaas.com>
Conversation: 11.4.98 New Zealand fines BP for spill

New Zealand's Southland Times reported:

BP OIL New Zealand Ltd yesterday faced a maximum fine of $ 200,000 after BP Elles Road spilled 9000 litres of diesel into the Otepuni Stream in Invercargill in April.

But Judge Jon Jackson decided a fine of $ 4000 was appropriate when the company appeared in the Environment Court in Invercargill.

BP Oil pleaded guilty to a charge put by the Southland Regional Council of illegal discharge into the stream.

BP Oil counsel Vanessa Hamm was quick to point out mitigating factors.

The leak had been caused by human error rather than a lack of care, had no significant environmental effects and had already cost the company tens of thousands of dollars to rectify, Ms Hamm said.

Otepuni Stream was contaminated three times between February 25 and April 23 before the leak was traced to BP Elles Road.

The loss had gone unnoticed because staff assumed fuel reconciliation forms were wrong after the tank had been emptied.

"The records were correct but were not interpreted correctly by staff," Ms Hamm said.

Reconciliation forms were now checked by an area manager and a new reconciliation system would be implemented by next year.

Regional council lawyer Barry Slowley said the council's main concern was that it took the company 50 days to detect the leak.

Judge Jackson said it was BP Oil's second offence nationwide, which was a good record considering the number of outlets it had.

From

EPA Enforcement Actions Database

Fiscal Year 1999

Region 5 -- Office of Regional Counsel

Consent Decree entered in multi-media civil case against British Petroleum Oil Company (BP) for violations of the Clean Air Act, CERCLA, and EPCRA / Toledo, Ohio

IMPACT: On May 5, 1999 a Consent Decree resolving a multimedia civil action against BP Oil Company (BP) was entered with the Federal District Court in Toledo. The Decree resolves an enforcement action involving the BP refinery located in Toledo, Ohio. The action concerned violations of the New Source Performance Standards (NSPS) and the Prevention of Significant Deterioration (PSD) provisions under the Clean Air Act (CAA), the Ohio State Implementation Plan (SIP), the emergency notification provisions under the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA), and the Emergency Planning and Community Right-to-Know Act (EPCRA). The Decree provides for the payment of a $1.4 million civil penalty, the performance of Supplemental Environmental Projects (SEPs) valued at $350,000, and the reporting, analysis, and correction of certain future flaring events.

BACKGROUND: The Complaint filed on December 5, 1997 alleged that BP discharged excess sulfur dioxide into the atmosphere from its Claus Sulfur Recovery Unit (SRU) and associated control device, in violation of the petroleum refinery provisions of the NSPS, the general provisions of the NSPS which require operation and maintenance consistent with good air pollution control practice for minimizing emissions, and various permits. The Complaint also alleged that BP, by operating and maintaining the SRU in a manner which resulted in shutdowns of the SRU and increased sulfur dioxide emissions, violated the general provisions of the NSPS which require good air pollution control practice for minimizing emissions. In addition, other counts contained in the Complaint involved allegations that BP flared fuel gas containing excess hydrogen sulfide from the SRU flare; allegations of tears in the seal fabric of external floating roof tanks; and allegations that BP failed to immediately report certain releases of air pollutants to the atmosphere, including hydrogen sulfide, in violation of the emergency notification provisions of CERCLA and EPCRA.

In resolution of the United States' allegations that certain flaring of acid gases violates the general and petroleum refinery provisions of the NSPS, the Consent Decree requires BP to monitor and report to Region 5 all flaring incidents of acid gases. Further, the Consent Decree requires BP to analyze each such flaring incident to determine the

From

cause of the incident, and, upon such determination, implement corrective action to prevent recurrences.

The United States and BP have also agreed to the performance of two SEPs which directly address concerns of the local community. First, BP will purchase, donate and have installed an emergency response telephone notification system that will be capable of notifying local and county residents of emergencies. BP has agreed to spend $150,000 for this project. Second, BP will purchase, donate, and have installed an upgraded radio and paging system for the local fire department. BP has agreed to spend $200,000 for this project.

Subject: 5.11.99 BP fined for injuries
Date: Friday, November 23, 2007 12:58 PM
From: russell@corporatecrimereporter.com
To: <dlperry@perryhaas.com>
Conversation: 5.11.99 BP fined for injuries

Scotland's Mirror reported:

Oil giant BP was yesterday fined the maximum pounds 20,000 over an explosion and fire on a gas platform.

Two men suffered burns in the fire which threatened all 172 workers on BP Exploration's Bruce platform, Aberdeen Sheriff Court heard.

The company admitted breaching health and safety regulations on the platform last October.

Injured workers William Farmer and Calum McNeil were installing machinery on the lower deck and received burns to their heads when explosive fumes ignited.

Firefighters took 30 minutes to put out the blaze on the platform, which produces 10 per cent of all the UK's gas 220 miles from Aberdeen.

A risk assessment study was carried out before work started but failed to spot the hazards.

BP's defence lawyer James Tiernay said the company admitted they were in the wrong and had taken steps to ensure such an incident couldn't happen again.

But Oil Industry Liaison Committee spokesman Jake Molloy said: "What is pounds 20,000 to the second biggest oil company in the world - nothing but pocket change.

"Legislation which does not carry a maximum fine needs to be introduced."

Subject: 2.3.2000 bp pleads guilty to north slope spill
Date: Friday, November 23, 2007 1:02 PM
From: russell@corporatecrimereporter.com
To: <dlperry@perryhaas.com>
Conversation: 2.3.2000 bp pleads guilty to north slope spill

Anchorage Daily News reported:

A federal judge Tuesday accepted a settlement between prosecutors and BP Exploration (Alaska) Inc. and sentenced the oil company to pay $ 15.5 million and serve five years of probation for failing to immediately report hazardous materials dumping at a North Slope oil field.

Last September BP, the state's biggest oil producer, pleaded guilty to a single felony count of failing to report the dumping. BP has already paid $ 6.5 million in civil penalties.

A BP contractor dumped thousands of gallons of toxic waste at the Endicott oil field between 1993 and 1995. The federal investigation continues, and BP's plea bargain with the prosecutors does not protect individual BP employees or other organizations from prosecution. However, based on what prosecutors know now, they have agreed not to pursue additional criminal charges against BP.

The sentencing by U.S. District Judge James Singleton closes one of the worst environmental crimes in the history of North Slope oil development.

BP vice president Chris Phillips struck a penitent tone at the sentencing.

"We recognize that we have been afforded a privilege, not a right, to operate in Alaska. We also recognize that we have a high standard to meet to maintain that privilege," Phillips said. "We are committed to ensuring this never happens again."

BP will pay a $ 500,000 criminal fine and implement a $ 15 million environmental management program to oversee U.S. exploration and production operations over the next five years.

Between 1993 and 1995, employees with Doyon Drilling Co. regularly dumped paint, solvent, waste oil and other hazardous substances that contained toxics like benzene and methylene chloride down oil well shafts at BP's Endicott Island oil field. Doyon pleaded guilty in 1998 to 15 counts of violating the Oil Pollution Act and paid $ 3 million in fines and compensation. Three Doyon workers were also convicted.

The single count that BP was sentenced on Tuesday relates to 23 barrels of waste dumped Jan. 17, 1995. BP said it learned of the dumping Aug. 31, 1995, when a Doyon worker came to the company's Anchorage office building. BP waited two weeks and did an internal investigation before reporting the incident to the Environmental Protection Agency.

BP admitted violating federal law by not telling authorities immediately.

"We took two weeks to investigate because we believed (the law) allowed us to determine if the allegations were credible before reporting them to the EPA. We were wrong," stated an internal memo quoted in court documents.

Federal prosecutors and BP remain at odds over two key points.

BP claims it did not know about the dumping at the time, while Doyon employees and federal officials believe the company did know.

BP also holds that because the dumping deposited the materials between 2,700 and 4,500 feet underground there is no environmental damage. Federal

officials say they are unsure whether the hazardous material leaked to the surface or somehow contaminated groundwater. However, Alaska EPA director Rick Albright has said that attempts to remove the waste would cause more harm than leaving it buried.

Prosecutor Deborah Smith said Tuesday that employees handling the materials may have been exposed to dangerous levels of toxicity.

U.S. Attorney Robert Bundy has commended BP for cooperating with the federal investigation into the case. Smith said the sentence should send a message to corporations "that you can't contract away your responsibilities."

Smith also said that prosecutors are pleased by BP's willingness to respond to the Endicott dumping by erecting a nationwide environmental management program. A court-appointed monitor, paid for by BP, will make quarterly reports to the court, Smith said.

BP Amoco ($32,000,000)

In April 2000, BP Amoco agreed to pay $32 million to resolve claims under the False Claims Act and administrative claims that the corporation underpaid royalties due for oil produced on federal and Indian leases since 1988.

BP Amoco, which is based in Chicago, was created in 1998 by the merger of Amoco Corporation of the United States and the British Petroleum Company p.l.c. of the United Kingdom.

Federal leases are administered by the Minerals Management Service of the United States Department of the Interior. Each month, BP Amoco is required to report the amount of oil produced and the value of the oil produced on federal and Indian leases. The oil company pays royalties based upon the value of the oil they report.

The settlement agreements were signed by representatives of several Indian tribes, as well as the federal government and BP Amoco.

Two relators, J. Benjamin Johnson, Jr., and John Martinek, who had filed a complaint in the United States District Court in Lufkin, Texas against BP and Amoco on behalf of the United States under the qui tam provisions of the False Claims Act will share in the proceeds of the settlement. The two will share more than $5.4 million.

The Department has already reached settlement agreements with several other oil companies for underpayment of royalties Mobil Oil, $45 million, Oxy USA, Inc., $7.3 million, Chevron, $95 million and Conoco, $26 million.

"BP Amoco to Pay $32 Million," 14 *Corporate Crime Reporter* 16(3), April 17, 2000)

Subject: 6.14.2000 BP fined for river spill
Date: Friday, November 23, 2007 1:05 PM
From: russell@corporatecrimereporter.com
To: <dlperry@perryhaas.com>
Conversation: 6.14.2000 BP fined for river spill

The Scotsman reported:

BP fuels mounted a pounds 200,000 clean-up operation after a human error by delivery staff polluted a tributary of the River Tweed with gas oil, a court has heard, writes William Chisholm.

Forty salmon died in the incident on the Allan Water last May and a thick sheen of oil was seen as far downstream as Gattonside, near Melrose, on the main river.

The firm was fined GBP 15,000 at Selkirk Sheriff Court after it admitted causing or unlawfully permitting poisonous, noxious or polluting water (gas oil) to enter the Allan.

Sheriff Kevin Drummond was told yesterday how BP Fuels had made a delivery to the Scottish Borders Council recycling centre at Easter Langlee, Galashiels. Due to a mistake, 18,000 litres of gas oil - rather than the diesel which had been ordered - was put into a tank only capable of holding 13,600 litres.

The procurator fiscal Lesley Thomson said the delivery from the BP depot at Newtown St Boswells should have been diesel. Fuel escaped via a pipe into the surrounding area.

She said: "There were checks in place that did not happen on this occasion ... The cost of the clean-up operation was in excess of GBP 200,000."

An agent for BP Fuels said two drivers had deliveries to make on 4 May last year, one of low-sulphur diesel ordered by the council, but he misread the delivery ticket. The second had a delivery of gas oil and as he was running late and because both believed they were delivering the same amount of the same material, they swapped loads.

Subject: 6.25.2000 bp fined for air pollution violations
Date: Friday, November 23, 2007 1:09 PM
From: russell@corporatecrimereporter.com
To: <dlperry@perryhaas.com>
Conversation: 6.25.2000 bp fined for air pollution violations

BP was fined $10 million for air-pollution violations at its U.S. refineries and ordered to spend $500 million to reduce emissions.

U.S. Environmental Protection Agency

EPA Newsroom

EPA FINALIZES AGREEMENT WITH PETROLEUM REFINERY

Release date: 01/19/2001

Contact Information:

FOR RELEASE: FRIDAY, JANUARY 19, 2001

EPA FINALIZES AGREEMENT WITH PETROLEUM REFINERY

The U.S. Environmental Protection Agency finalized an agreement with BP Amoco, the nation's second largest petroleum refinery, to resolve Clean Air Act violations at eight refineries owned by BP, Amoco and Arco (recently acquired by BP). The settlement is the second in a federal enforcement strategy for achieving across-the-board compliance with U.S. refineries (the government settled with Koch Petroleum Group in December).

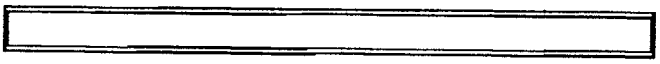
The agreement was finalized in a consent decree filed in U.S. District Court in Hammond, Indiana, on Thursday, Jan. 18. It calls for BP to pay a civil penalty $9.5 million to the United States Treasury and $500,000 to the State of Indiana for monitoring and reducing volatile organic compounds in the vicinity of the Whiting refinery. The injunctive relief is estimated by BP to be approximately $600 million.

Under the settlement, BP will install and operate innovative pollution control technologies that will reduce emissions of nitrogen oxides and sulfur dioxide from refinery process units by more than 50,000 tons annually. In addition BP will implement comprehensive, facility-wide, enhanced monitoring and fugitive emission control programs; employ significantly improved engineering practices to eliminate excess flaring of hydrogen sulfide; undertake measures to ensure that carbon monoxide emissions from its process units meet applicable requirements; monitor incinerator performance and install monitoring and controls; and install particulate matter controls to comply with federal emission requirements.

The eight refineries are located in Carson, Calif.; Whiting, Ind.; Mandan, N.D.; Toledo, Ohio; Texas City, Texas; Salt Lake City, Utah; Yorktown, Va.; and Cherry Point, Wash. The proposed Consent Decree also resolves alleged violations under the Resource Conservation and Recovery Act at BP's Whiting, Ind., refinery. The United States was joined in this agreement by the states of Indiana and Ohio, as well as the Northwest Air Pollution Authority in Washington.

R-18 ###

Receive our News Releases Automatically by Email



This page was generated on Saturday, November 17, 2007

View the graphical version of this page
at: http://yosemite.epa.gov/opa/admpress.nsf/b1ab9f485b098972852562e7004dc686/1837d58f6a4da14e

Subject: 10.13.2001
Date: Friday, November 23, 2007 1:15 PM
From: russell@corporatecrimereporter.com
To: <dlperry@perryhaas.com>
Conversation: 10.13.2001

The Scotsman reported:

BP has been fined more than GBP 200,000 for exposing its workers to gas leaks over a four-year period on a gas platform in the North Sea. A judge has ruled that the oil giant must pay a GBP 140,000 fine and court costs totalling GBP 64,150 for exposing its offshore contract workers to gas leaks. BP said that it was "very sorry" and was now paying much closer attention to platform corrosion to ensure that the event does not re-occur. The incident occurred at an Amoco gas platform in the North Sea. BP acquired the US oil giant Amoco in 1999 and inherited the court case. The decision is a landmark victory for the Health and Safety Executive (HSE) which brought the case to trial.

Subject: 1.19.02 BP fined for injuries
Date: Friday, November 23, 2007 1:16 PM
From: russell@corporatecrimereporter.com
To: <dlperry@perryhaas.com>
Conversation: 1.19.02 BP fined for injuries

Times of London reported:

BP was fined Pounds 1 million yesterday after it admitted safety breaches at its petrochemical plant in Grangemouth, near Edinburgh.

The oil company was accused of gross dereliction of duty and putting staff and the public at considerable risk after two incidents in June 2000.

Lawyers for BP Chemicals Ltd admitted two charges of breaking the Health and Safety at Work Act on June 7 when a steam pipe close to a main road exploded, injuring a woman who was walking her dog, and on June 10 when a flammable gas leak caused a fire which forced five BP workers to "run for their lives".

Falkirk Sheriff Court heard that a build-up of steam pressure, known as water hammer, caused the steam pipe to explode. Jean Lapsley-Carbis told investigators that she was walking her dog near by when she heard a noise "like a jet taking off" and felt a push to her back.

She had three cracked ribs, a sprained knee, pain in her back and shoulder and hearing difficulties, and was unable to sleep properly for several months. Billy Gallacher, for the prosecution, said that the dog also suffered hearing loss and was prescribed tranquillisers by a vet.

BP has since agreed an out of court compensation settlement of several thousand pounds with her and agreed to pay her vet bills.

The second incident was at the plant's fluidise catalytic cracking unit early on June 10 when the unit was being restarted after the earlier incident. Mr Gallacher said that a white vapour smelling of spirit began escaping from the other end of the pipe. The vapour ignited while five technicians at the plant were trying to establish the source of the leak. He said: "Put shortly, the operators were forced to run for their lives."

Ken Richardson, public affairs manager of BP Grangemouth, said that the company acknowledged that mistakes had been made but stressed that BP had spent millions of pounds to prevent any further problems. Niall Scott, for the defence, said that BP deeply regretted both incidents, adding that he had been instructed to "express unqualified regret for the incidents and the distress caused to members of the public and workforce".

Sheriff Albert Sheehan said that it was sheer luck that no one had been seriously injured in either incident. "There has been what can only be described as a gross dereliction of duties and there was considerable potential danger to plant operators and members of the public," he added.

Alistair McNab, the Health and Safety Executive inspector who led the investigation, welcomed the outcome of the case. "The court has confirmed by the high fine imposed today that BP must employ the highest standards of management, safety, health and environment to prevent major incidents," he said.

Subject: 6.6.2002 bp fined for alaska leaks
Date: Friday, November 23, 2007 1:38 PM
From: russell@corporatecrimereporter.com
To: <dlperry@perryhaas.com>
Conversation: 6.6.2002 bp fined for alaska leaks

The Financial Times reported:

BP, the UK's largest company, has been fined Dollars 300,000 (Pounds 205,000) for failing to meet leakage detection standards on big oil pipelines it operates in Alaska.

The Alaskan Department of Environmental Conservation said the group did not meet the state's standard of detecting leaks as small as 1 per cent of daily volume. A compliance order has been issued to force BP to improve leakage detection systems across its Prudhoe Bay pipelines.

BP said it had originally intended to update monitoring systems by the end of last year, but had been delayed by a disagreement between the oil industry and the state over how the standard should be applied. Matthew Jones

Subject: 6,22,02 bp fined for misleading report
Date: Friday, November 23, 2007 1:43 PM
From: russell@corporatecrimereporter.com
To: <dlperry@perryhaas.com>
Conversation: 6,22,02 bp fined for misleading report

European Information Service reported:

Deutsche BP, the German subsidiary of the oil giant British Petroleum, has been fined Euro 35,000 by the European Commission for providing incorrect and misleading information about its acquisition of German chemicals producer Erd'lchemie GmbH. In its decision announced on June 19, the Commission stressed the importance of receiving all information necessary to assess the impact of a transaction on the marketplace within the tight and legally-binding timetable set within the Merger Regulation. The Commission finally cleared the acquisition of Erd'lchemie on April 26, 2001 once it had received all relevant information.

Subject: 2.1.03 alaska fines bp $7,000
Date: Friday, November 23, 2007 1:46 PM
From: russell@corporatecrimereporter.com
To: <dlperry@perryhaas.com>
Conversation: 2.1.03 alaska fines bp $7,000

Financial Times reported

State regulators in Alaska said last night they were citing and fining BP, the UK oil and gas group, in connection with a well explosion that seriously injured a worker.

The civil violation carries a maximum Dollars 7,000 fine. However, the authorities said BP would be forced to pay much more to satisfy them that it had taken steps to prevent another such accident.

The changes the company would have to make were "going to cost them millions", said John Stallone, acting chief of the Alaska Occupational Safety and Health section of the Department of Labour.

"We didn't feel their process was quite up to snuff."

The citation alleges that BP violated the intent of the "general duty clause" in state regulations that say "an employer has an obligation to provide a workplace free of recognised hazards".

BP has publicly accepted responsibility for the accident and admitted in a confidential report to management that the explosion took place after the company restarted production on the well "without taking adequate safeguards".

The citation is the latest blow to hit BP's operations in Alaska, which have come under heightened scrutiny in the months since the August accident in which worker Don Shugak sustained broken bones and severe burns.

In December, another accident on site killed Rodney Rost, a welder, prompting further investigations by state authorities, which are continuing.

Steve Marshall, president of BP Alaska, has warned staff to improve their safety record, saying the company's future in Alaska depended on it.

The Alaska Oil and Gas Conservation Commission has already decided to tighten regulatory oversight of BP's operations in Prudhoe Bay, the largest oil field in north America.

On the federal level, a US judge in December began requiring BP to provide unrestricted access to its Alaskan operations to verify compliance with federal, state and local environmental, health and safety laws while on probation.

BP has been on probation since 2000, after it pleaded guilty to delaying notification to federal agencies when allegations of illegal disposal of hazardous waste in Alaska were raised.

BP has 15 working days to respond. It can pay the fine, affirming the violation, and agreeing to abatement measures; request an informal conference to refute the findings and ask for a lesser penalty; or reject the citation outright, in which case the matter would be taken up by an administrative law judge.

"We are considering what action, if any, to take," said Daren Beaudo, BP

spokesman.

Subject: 11.17.04 bp fined for north sea gas leak
Date: Friday, November 23, 2007 1:50 PM
From: russell@corporatecrimereporter.com
To: <dlperry@perryhaas.com>
Conversation: 11.17.04 bp fined for north sea gas leak

The Mirror reported:

OIL giant BP was fined pounds 200,000 yesterday for a gas leak on a North Sea platform.

The fine is small change to Britain's biggest company, which makes profits of pounds 1million an hour.

Aberdeen Sheriff Court heard it failed to properly deal with corrosion in gas pipes on its North Sea Forties Alpha installation.

There was a "catastrophic" failure when a pipe ruptured, showering the platform with debris.

Fiscal Ernest Barbour, prosecuting, said the incident was "an accident waiting to happen" because the pipe had been in a poor condition for a long time.

No one was hurt in the November 2002 incident.

Subject: 1.18.05 bp fined for prudhoe bay safety violations
Date: Friday, November 23, 2007 1:52 PM
From: russell@corporatecrimereporter.com
To: <dlperry@perryhaas.com>
Conversation: 1.18.05 bp fined for prudhoe bay safety violations

The Guardian reported:

BP has been hit by fines of $ 1.42m (£763,000) for safety violations on its Prudhoe Bay oilfield in Alaska.

The company has already been accused of failing to look after its staff properly in the area and is still on a five-year probation from the US justice department over environmental problems on Alaska's North Slope.

Despite the latest fine - understood to be a record from the Alaska oil and gas conservation commission - BP said the Prudhoe Bay oilfield was still one of the safest work places in Alaska.

The London-based firm said the few incidents that did occur there caught people's attention because of monitoring by the authorities and the media. "We are pleased to have reached agreement with the commission and drawn a line under (this issue)," a BP spokesman said.

BP was originally fined $ 2.53m for an explosion and fire in August 2002, which badly burned one worker.

BP appealed against it and the fine was halved to $ 1.3m but the group had a further $ 102,000 fine for failing to implement safety procedures strictly enough on another well, H-11.

Subject: 12.5.05 BP fined over north sea spill
Date: Friday, November 23, 2007 1:56 PM
From: russell@corporatecrimereporter.com
To: <dlperry@perryhaas.com>
Conversation: 12.5.05 BP fined over north sea spill

Glascow Evening Times reported:

OIL company BP has been fined GBP25,000 after a diesel spill in the North Sea.

It was found guilty at Aberdeen Sheriff Court of breaching environmental regulations after being prosecuted when 65 tonnes of fuel leaked from a supply vessel in July last year.

The vessel was refuelling BP's Lomond Platform, around 160 miles east of Aberdeen, at the time.

A BP spokesman said: "We have learned lessons."

Subject: 4.25.06 osha fines bp for texas city
Date: Friday, November 23, 2007 2:00 PM
From: russell@corporatecrimereporter.com
To: <dlperry@perryhaas.com>
Conversation: 4.25.06 osha fines bp for texas city

The U.S. Department of Labor's Occupational Safety & Health Administration issued the following press release:

The U.S. Department of Labor's Occupational Safety and Health Administration (OSHA) today fined BP Products North America, Inc. more than $2.4 million for unsafe operations at the company's Oregon, Ohio refinery. OSHA's inspection identified a number of violations similar to those found during an investigation of the fatal explosion at BP's Texas City, Texas, refinery that claimed the lives of 15 workers and injured more than 170 others.

"It is extremely disappointing that BP Products failed to learn from the lessons of Texas City to assure their workers' safety and health," said Edwin Foulke, Jr., OSHA assistant secretary. "Our Enhanced Enforcement Program (EEP) exists for companies like this who, despite our enforcement and outreach efforts, ignore their obligations under the law and continually place their employees at risk."

OSHA's Toledo Area Office initiated an inspection at the Ohio refinery in response to an alert issued by OSHA under the EEP. The inspection resulted in 32 per-instance willful citations, with penalties of more than $2.2 million. OSHA cited BP for locating people in vulnerable buildings among the processing units; failing to correct de-pressurization deficiencies; failing to correct deficiencies with gas monitors; and failing to prevent the use of non-approved electrical equipment in locations in which hazardous concentrations of flammable gases or vapors may exist.

BP was fined an additional $140,000 for two willful violations. The company neglected to develop shutdown procedures and designate responsibilities, and failed to establish a system to promptly address and resolve recommendations made after an incident when a large feed pump failed. Three years later those recommendations had still not been implemented.

Another $35,000 in penalties was issued for five serious violations, including failure to develop operating procedures for a unit that removes sulfur compound; failure to ensure that operating procedures reflect current operating practice in the Isocracker Unit; failure to resolve process hazard analysis recommendations; failure to resolve process safety management compliance audit items in a timely manner; and failure to periodically inspect pressure piping systems.

BP Products North America, Inc. has 15 working days to contest the citations and proposed penalties before the independent Occupational Safety and Health Review Commission.

Contact: Kate Dugan and Brad Mitchel, 202/693-1999, 312/353-6976.

Subject: 2.21.07 bp fined for luton uk leak
Date: Friday, November 23, 2007 3:00 PM
From: russell@corporatecrimereporter.com
To: <dlperry@perryhaas.com>
Conversation: 2.21.07 bp fined for luton uk leak

Luton Today reports:

Oil giant in the dock again after another leak into water Oil giant BP has been ordered to carry out a £320,000 clean-up operation at a Luton petrol station after a pollutant was found in groundwater supplies at levels 1,000 times above acceptable drinking standards. Samples taken by the Environment Agency after a fuel leak at the Leagrave Road site discovered an additive usually found in unleaded petrol had seriously contaminated supplies and put valuable water reserves in the area at risk. After pleading guilty at Luton Magistrates Court on Friday, BP was fined £8,000, ordered to pay £3,536 in costs and left to count the hefty cost of a clean-up bill. Full story in February 21 edition of the Luton News.

Subject: 6.2.07 michigan tank leak fine
Date: Friday, November 23, 2007 3:03 PM
From: russell@corporatecrimereporter.com
To: <dlperry@perryhaas.com>
Conversation: 6.2.07 michigan tank leak fine

detroit news reported:

State environmental officials levied fines Friday of $869,150 against BP Products North America Inc. for leaky underground storage tanks at eight former stations in Michigan, including one in Roseville.

"This is a very serious situation," said Bob McCann, spokesman for the Department of Environmental Quality. "Usually owners try to work with us, but in this case it hasn't happened."

McCann said the leaky tanks, some of which hold contaminated groundwater, pose a significant risk to the environment and to human health.

McCann said besides the Roseville station, the others were in Kalamazoo, Lansing and Grand Rapids. BP, a subsidiary of the former British Petroleum, has not submitted required reports or completed cleanups, McCann said.

"This has been going on for many years," McCann said. "They've done bits and pieces, but never followed through." McCann said all eight stations had been company-owned and some were Amoco stations. BP merged with Amoco in 1998.

BP spokeswoman Valerie Corr in Chicago said the DEQ's action was a surprise.

"We've been working with the DEQ for a number of years and continue to do so," she said. "We continue to address the cleanup at our sites."

The Roseville site is at 27951 Gratiot, the site of a former Amoco gas station and now a Hot 'N Now restaurant. A chemical from the leaking tanks has been detected in groundwater beneath that site, McCann said. Roseville doesn't get its water supply from groundwater.

Contamination has spread in soil in areas where utility workers could come in contact with it, DEQ records show. The site became a gas station in the 1940s. BP bought it in 1970 and sold it in 1979 to a restaurant company, records show.

The Roseville Fire Department found leaking beneath the site in 1966. Leaking has been tracked several times since then and while the company has made some efforts in the past nine years to clean up the site, the cleanup is not done, DEQ records show.

The DEQ is monitoring more than 200 former gasoline stations where BP has reported releases from underground tank systems. Once a company finds contamination, it is required to submit reports showing the extent of the contamination and cleanup plans. It also must file progress reports.

A study conducted by the DEQ in January 2006, found a noncompliance rate of approximately 60% by BP and that 47 of BP's 74 highest-risk sites have not complied with the law.

The eight sites were chosen for fines because significant risk is present at each, and BP has received written notification of the noncompliance but has not undertaken the necessary investigation or cleanup or submitted the required reports, a DEQ news release said.

Nationwide, Michigan is third in the number of leaking underground storage

tanks, after Florida and California.

BP America announces resolution of Texas City, Alaska, propane trading, law enforcement investigations

Release date: 25 October 2007
This press release was issued today in Houston, Texas, by BP America Inc.

HOUSTON, TX -- America today announced two plea agreements and a deferred prosecution agreement with the U.S. Department of Justice and a consent order with the Commodity Futures Trading Commission which end governmental investigation of company wrongdoing on matters related to the March 2005 explosion and fire at the Texas City refinery, the March and August 2006 oil transit line spills in Alaska and improper propane trading in April 2003 and February 2004.

April 2003, February 2004 propane trades
BP America has entered a deferred prosecution agreement (DPA) with the U.S. Justice Department under which the company admits that it manipulated the price of February 2004 TET physical propane and attempted to manipulate the price of TET propane in April 2003. The DPA concludes all criminal investigations of BP America on matters related to propane, gasoline, crude oil and other commodity trading.

BP Products North America Inc. also has entered a companion consent order with the U.S. Commodity Futures Trading Commission (CFTC) resolving all civil enforcement matters concerning the company's propane and gasoline trading.

BP America will pay fines, penalties and restitution totaling just over $303.5 million, including $53.5 million to a victim restitution fund, a criminal penalty of $100 million, a civil penalty of $125 million and a $25 million payment to the U.S. Postal Inspection Service Consumer Fraud Fund.

THE WALL STREET JOURNAL. ONLINE

October 25, 2007 1:10 p.m. EDT

Text of BP Statement on Settlements

October 25, 2007 1:10 p.m.

BP America Announces Resolution of Texas City, Alaska, Propane Trading Law Enforcement Investigations

Alaska

BP Exploration Alaska, Inc. (BPXA) will plead guilty to a misdemeanor violation of the U.S. Federal Water Pollution Control Act and admits, in the plea agreement, that the company's approach to monitoring and managing corrosion in Prudhoe Bay oil transit lines failed to properly consider the risks posed by changing operating conditions in the field and that, as a result, BPXA failed to take necessary actions to prevent the March 2006 pipeline spill.

BPXA has agreed to a $12 million fine and 3 years probation. Under the agreement, BPXA will also pay restitution of $4 million to the State of Alaska, which has agreed not to prosecute the company, and make a $4 million payment to the National Fish and Wildlife Foundation for Arctic environmental research.

The Justice Department and State of Alaska have agreed not to bring further criminal charges against BPXA in connection with the March and August 2006 spills.

The leak and the resulting 4,800 barrel spill impacted 1.9 acres and is the largest oil spill to ever occur at Prudhoe Bay. The plea agreement acknowledges that BPXA promptly and thoroughly cleaned up the discharged oil. No lasting harm to the surrounding environment is expected.

"This leak, and the spill that resulted from it, revealed a significant gap in our corrosion management program -- a gap that existed because our approach to assessing and managing corrosion risk in these lines was not robust or systematic enough," Malone said.

"We regret that our monitoring of these lines did not meet the expectations of the State of Alaska and the U.S. government," Malone said. "Since this incident we have worked with state and federal regulators to ensure the safe, reliable operation of critical Prudhoe Bay pipelines which deliver processed oil to the Trans Alaska Pipeline."

Following the March spill, BPXA worked with the U.S. Department of Transportation to make periodic maintenance and smart pigging part of BPXA's oil transit line corrosion inspection, monitoring and inhibition program.

Exhibit "C" to Declaration of David L. Perry

Due to electronic filing rules, the CD itself cannot be filed electronically. A physical copy of the CD is being provided contemporaneously to the Court and to Defense Counsel.

Exhibit "D" to Declaration of David L. Perry (Part 1 of 2)

Printouts of files in the folder titled "Ken Abbott Government disclosure documents" on CD Exhibit "C"

2009-005 (Abbott and Atlantis) Chronology and Abbott's Retaliatory Discharge and BP Breach of Contract Complaint

- **July 21, 2008**
  - Kenneth Abbott has his services contracted by Swift Technical (contractor) to BP America with a start date of August 18, 2008 and an ending date of 2010
  - Position is Subsea Projects Services Leader
  - Letter and signed contract sent by Kerri Walsh who is Business Development Manager for Swift Technical
  - Abbott leaves GE full time employee payroll and joins BP for a two year contract and a promise of temp to perm placement within BP in 6 months by Bill Naseman. In October 2008 Naseman confirms to Abbott that he will be made a permanent BP employee by January 2009. Naseman violated truth in hiring laws by promising long term employment and temp to perm and enducing Abbott to leave his old job and then dismissing him after only 51/2 months for retaliatory reasons.

- **December 23, 2008**
  - *9:00 AM* - Mr. Abbott alleges that one of his employees (Becky Cavalier a Cost Analyst from a Turner & Townsend) approaches him about being harassed and discriminated against by Alan Clark (Cost Engineer from Clover)
  - *10:00 AM* – Mr. Abbott approaches Mr. Clark regarding the concerns raised to him. He alerts Mr. Clark that he needs to improve his communications with Ms. Cavalier. Mr. Clark requested that Ms. Cavalier be terminated because she was "no good." (he also called her a SILLY OLD SOW, and Mr. Abbott reminded him that was discrimination. Mr. Abbott replied that he had only heard good things about her and that firing her would not be the solution, which resulted in Mr. Clark becoming angry…Mr. Abbott reminded him that everyone had to "work together in order to get the job done." Clark then told Abbott to fuck off and leave his office, which was insubordinate.
  - *10:30 AM* – Mr. Abbott is approached by Mr. Clark asking him to sign his timesheet. After which Mr. Clark left his office announcing that Mr. Abbott had just fired him. Mr. Abbott expressed that at no point did he tell Mr. Clark that he was terminated.
  - *11:00 AM* – Mr. Clark dropped his key off to the admin for Atlantis (Necie Kelley) and alerted her that he was leaving. Mr. Abbott left Mr. Clark a cell phone message asking him to call him to resolve the issues. Later that day, Abbott phones Naseman at home (he is on 2 week Xmas break) to brief him on the departure of Clark, and Naseman tells Abbott that Alan has done this same kind of hostile departure on two other BP jobs previously, and the last job before this one he left without any notice after an argument with his supervisor and then tried to come back three days later, and the supervisor

refused. My question is why did BP leave this guy in place knowing he is a ticking time bomb? Mike Price, PE on Atlantis and Doug McGregor, cost engineer on Atlantis, also independently confirmed to Abbott the hostile behavior of Alan to other employees, and Mike Mills, his ex supervisor for Turner and Townsend also said he had Turner scared of him and was always blowing up over nothing.

- **Sometime after Mr. Clark left (Between Dec. 23 – Jan. 12, 2009)**
  - Mr. Abbott believes that shortly after Mr. Clark left the company he wrote an email to John Schwebel (Project Director – BP) and from what he has heard secondhand, the email is very critical of Mr. Abbott → and blaming Mr. Abbott for the events that transpired, and also accusing Becky Cavalier of causing his firing, and that she was the problem, not him. The email was apparently then distributed amongst project management and engineering leads on Atlantis, including Benny Kirkham and Mr. Naseman. Mr. Abbott has been told by Naseman that he will not give him a copy of the email to review and respond to. Schwebel told Abbott that Alan did a good job and that Becky Cavalier and all others in the cost group were incompetent. Benny made discriminatory statements against Becky Cavalier and said not to hitch my wagon to her. Other Atlantis team cost engineers supported Becky. Doug McGregor said that Alan had been continually harassing and humiliating her for the past few months.
  - During the week of 1/6/09, Ken Abbott received an email BP system alert that his system access was going to expire soon, and that he needed to get it reauthorized by his supervisor, and that his contract expire date was 2/27/09. Abbott sent an email to Naseman requesting the reauthorization and asking why the system showed his contract ending in 6 months instead of 24, and he received no reply. Finally, Abbott called Naseman re the email, and Naseman said they would discuss it at the 1/12/09 meeting (Naseman said he was not ready to discuss it yet after the 1/12/09 meeting). This is very good evidence the contract expire date was moved up by Naseman, based on his decision to terminate Abbott in retaliation for his trying to protect the rights of Becky Cavalier to not be harassed and discriminated against.

- **January 12, 2009**
  - Mr. Abbott alleges that Bill Naseman (BP Project Services Mgr for Atlantis) calls him into his office and blames Mr. Abbott for all of the events that had transpired with Mr. Clark. Mr. Naseman alerted Mr. Abbott that he did not follow the BP manager guidelines and that they would start having monthly meetings to work on his management skills and that Mr. Abbott should have spoken to Mr. Naseman before confronting Mr. Clark, and that only Naseman should discuss this with Clark, although Abbott had never been told these Naseman rules previously, and although BP put him in a supervisory role over five people. Abbott has previously had nothing but good reports on his performance from his project director Bill Broman and Naseman. Abbott had been also told by Naseman in October 2008 that his contract position would

go to permanent BP staff status in early 2009, and when Abbott was hired in August 2008, Naseman told him that the position was a temp to perm position.

- **January 15, 2009**
  - Swift Oil and Gas posts an employment opportunity for the position of "Project Services Lead" for a "MAJOR operator" that calls for a contract person to work on a "long-term Gulf of Mexico project." Kerri Walsh of Swift tells Ken Abbott that the position was for the BP GOM Atlantis, and that Bill Naseman has interviewed two candidates for the position. This is obviously an ad for Abbott's replacement and a contract position. Also, Naseman told Abbott and Eddie Antoine and Sim Powell (all managers in Naseman's group) in a meeting on 1/12/09 that he was also seeking to hire a senior cost engineer contractor for the topsides group for the Phase 2 Atlantis work. Why was Abbott not allowed to move into this position or even be considered for it?
    - *Raises questions as to whether BP planned on hiring another contract employee to replace Mr. Abbott – shortly after Mr. Naseman had confronted Mr. Abbott about the incident with Mr. Clark. This job posting is in direct contrast to the information BP provided the OoO regarding the Project Services Lead position.*

- **January 29-30, 2009**

  BP asserts that Bill Naseman, Bill Broman (Atlantis Subsea Delivery Manager), Dirk Smit (Atlantis Phase 2 Delivery Manager), and Simon Todd (VP Atlantis) discussed whether the company could reduce costs by combining two Project Services Lead into one BP PSL position held by Simm Powell (who had just replaced the other Project Services Lead – Mike Mills (contractor). From the evidence in the paragraphs above and below, it is clear that Bill Naseman's decision to terminate Abbott was not because of a reduction in staff due to lack of work as he contends. He terminated Abbott to retaliate against him, and Naseman made his decision to do so sometime during the first two weeks of January 2009.

- **January 30, 2009**
  - BP asserts that Bill Naseman, Project Services Manager for Atlantis decides that Ken Abbott's position should be eliminated.

- **February 3, 2009**
  - Mr. Abbott is told that his contract is being terminated early, and that his final day would be February 9th.
  - 4:00 PM EST – Mr. Abbott brings his concern regarding his retaliatory discharge to OoO
  - 4:30-4:50 PM EST – Mr. Abbott asserted he was to have a meeting with BP HR, his contractor manager, and Naseman to discuss his termination. Instead he was approached by Bill Naseman and Greg Farnham (BP Atlantis HR) and was told that it was best that he pack his things and leave the premises, rather than waiting till Friday because of all the allegations he had raised, and all that had transpired that day. Bill Naseman stated when he came to Abbott's office

with Farnham that he was let go for lack of work (as did Kerri Walsh in her call to Abbott telling me about the dismissal earlier that day). The evidence shows this was false. On 1/29/08 at Naseman's biweekly staff meeting, he reviewed slides from Simon Todd's leadership team that showed BP GOM planned to hire 200 new staff during 2009 and there were no layoffs planned in the GOM production group. Eddie Antoine, John Vernor, and Mike Mills all heard this "no layoffs" pledge and we were encouraged to spread the word among our staff to reassure everyone. In fact, during the last two weeks of 12/08, the VP of GOM held a town hall for the entire GOM production team and said that we were hiring for 2009, and no layoffs were planned.

I must tell you how much this illegal termination has bothered me, because not only was there a false reason for dismissal, but more importantly, it was hard to have a personal attack on my management and professional skills as a result of standing up for an employee who was being harassed. As soon as Bill Naseman returned from his Christmas holiday on app.1/6/09, he started this retaliation against Ken Abbott.

- **Abbott's Concluding Remarks:**

Ken Abbott has been harassed and retaliated against by being terminated because he did the right thing for BP as a supervisor and stood up for a female employee who had accused Alan Clark of harassment. His effort to resolve the issue probably helped BP avoid a discrimination/harassment lawsuit by Becky Cavalier. No one has even bothered to interview Becky Cavalier (except Ken Abbott). Instead of interviewing Becky and the entire team and conducting a proper investigation, Naseman chose to falsely blame Ken Abbott based on the input of two employees (John Schwebel and Benny Kirkham) who wanted to cover up for Alan, and being angry he left, wanted to falsely blame and punish Ken Abbott and Becky Cavalier. Abbott also believes that Bill Naseman was negligent in not telling Abbott about Clark's severe communication problems, and in bringing Clark into the group, to be inherited by Mr. Abbott, when Alan's hot tempered and insubordinate history at BP was well known and documented. The passing around of defamatory email from Alan Clark by BP employees Schwebel and Naseman and contractor Benny Kirkham on the Atlantis Project without any chance for Abbott to see it or to defend his reputation was also inexcusable and damaged his reputation tremendously.

Not only is Naseman guilty of retaliation against Abbott, but Alan Clark is also guilty of retaliation against both Becky Cavalier and Abbott, since Clark was still a BP contract employee when he sent the retaliatory email mentioned in the paragraph above to John Schwebel (Schwebel was not his supervisor). BP did not terminate him until 12/30/08 after waiting a week after his departure on 12/23/08, to give him time to reconsider his departure from the company.

There is also the matter of Naseman's illegally changing the terms of Abbott's employment contract by moving the end date from August 18, 2010 back to February 27, 2009 without getting Abbott's consent. This is breach of contract and could result in civil/criminal penalties to BP and full payment to Abbott of the two year contract term.

There is substantial evidence of the fraud by Naseman. The BP computer system notice emails to Abbott and emails to Naseman from Abbott show the contract end date was revised to 2/27/09. Also, as reported to Abbott by the Ombudsman, on Wednesday 2/4/09, the VP of Atlantis project Simon Todd and Naseman and the ombudsman met to discuss Abbott's termination and Simon Todd stated that Abbott's contract end date was 2/27/09.

I think BP is overall a good place to work, and I would like to see this illegal termination and breach of contract resolved within the company, and my employment reinstated somewhere within BP. If that cannot be achieved, then full payment of my remaining contract term would be fair.

From: Abbott, Ken (SWIFT TECHNICAL SERVICES)
Sent: Tuesday, December 23, 2008 1:12 PM
To: Naseman, Bill E
Subject: Alan Clark's resignation

Bill - as per our phone conversation this morning, here is a summary of the events leading up to Alan Clark's resignation at lunch:

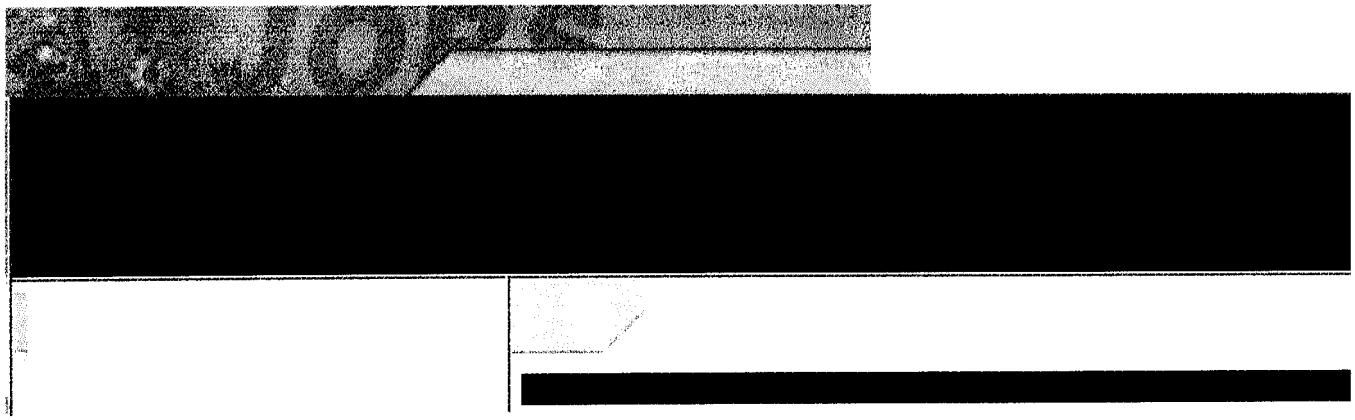
- This morning at about 9 AM Rebecca Cavalier came to my office to discuss a problem she said she was having with Alan Clark. She was quite upset and said she was having problems working with Alan Clark for the past few months due to his harassment of her when she attempts to communicate with him over Invoice issues. She wants to not have to work with him, or she may have to leave the project. I discussed the problem with her and she provided examples of the harassment.
- She said the problem has gotten so bad that she had sought a way to avoid contact with him this week, and she asked Jay Walsh to help with coding some SS2 invoices. (normally Alan's project invoices). Jay tried to help by forwarding the invoice to Alan. Alan immediately responded with a caustic

email to Rebecca and Jay (see attached).

<<FW: SS-2 Invoice Process>>

- I counseled Rebecca that using a buffer to work with Alan was not the answer, and that I would discuss the communication problem with Alan and work with them to resolve it. She said that was acceptable, and that she was willing to work to resolve the problem.
- I met with Alan around 10:00 AM today and told him that Becky had complained about her treatment by him. I also told him the email was unnecessary and that he should have resolved the issue with her personally. I also told him he needed to work to improve his communications with Becky. He responded that she was no good and should be terminated. Since I have had no complaints on Becky from the Atlantis team (in fact many good remarks about her) and my own experience with her performance has been very good, I told him that was not the solution. He then got very angry and insubordinate to me. I finished the conversation with Alan with a reminder that we have to all work together and communicate in order to get the job done.
- About 10:30 AM Alan brought his timesheet for the week to me to sign, which I did. He then dashed out of the office saying I had fired him. I told him no I had not. He then proceeded to tell other employees Jay Walsh and Becky that I had fired him and told Becky "thanks for the Christmas present of being fired". At no time did I tell Alan that he had been fired or even suggest it, I only talked with him about the need to address the communication problem. Becky was so upset over his outburst, that she asked for the rest of the day off, which I agreed to.
- Around 11:00 AM Alan went to the admin for Atlantis (Necie Kelley) and asked her to take his key, he was leaving. I have asked Necie to hold on to the key, lock his door, and take no further action until I advise. I have also left Alan a message on his cell phone to call me to resolve the issues.

RIGZONE.com
your gateway to the oil and gas industry



- Candidate Home
- Post Your Resume
- Search Jobs
- Edit Your Resume
- Your Career Center

- Downstream Jobs
- Students & Graduates

Candidate Help:

- How it Works
- FAQ

Training:

- Training Center Home
- Training Providers
- Training Events

- Training Books
- Reference Books

Recruiters:

- Recruiter Home

NEWSLETTERS

Rigzone Job Alert: Twice per month this email notifies you of the latest job openings posted by leaders in the oil & gas industry.

Subscribe Today: Your Email Here

Subscribe

(hidden)

Your email is safe with us.
Read our privacy policy

advertise

You Are Here: Jobs >> Engineer - General Job Postings >> Job Po

Friend's Email:

Your Email:

Subject: Project Services Lead - Houston, TX - Job Open

Employer: S
Desired Expertise: E
Experience: 1
Education: E
Salary: T
Location: H
Date Updated: 1

Job Description:

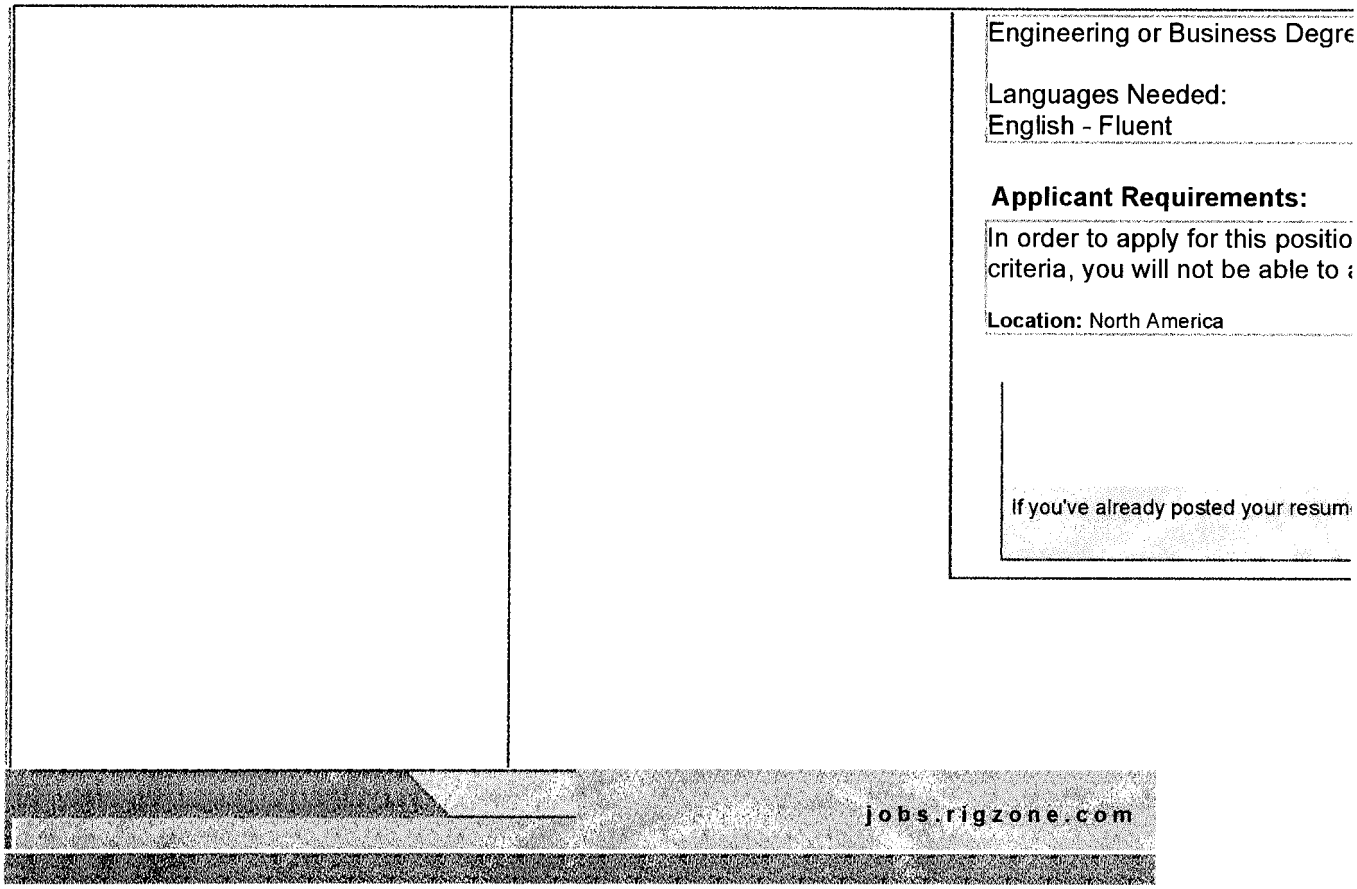
MAJOR operator seeking Proje
will be provided with FREE me

Project Services Lead
Location: Houston, TX
Duration: 2 years +
Rotation: 9/80 schedule
Start Date: ASAP
Rate: To be proposed by intere

Based in Houston and will invo
will likely eventually be located
Manager and will eventually en
Engineer and a Project Service
reporting relationship in to the I
the following areas: Ability to le
skills.

Experience:
A minimum of 10 years relevan
desirable and deepwater exper

Education / Certifications:
Engineering or Business Degre


Engineering or Business Degre
Languages Needed:
English - Fluent
Applicant Requirements:
In order to apply for this positio
criteria, you will not be able to
Location: North America
If you've already posted your resum
jobs.rigzone.com

[illegible]

[illegible]

[illegible]

[illegible]

DATA

[illegible]

[illegible]

[illegible]

[redacted]

Candidates:

- Candidate Home
- Post Your Resume
- Search Jobs
- Edit Your Resume
- Your Career Center

- Downstream Jobs
- Students & Graduates

Candidate Help:

- How it Works
- FAQ

Training:

- Training Center Home
- Training Providers
- Training Events

- Training Books
- Reference Books

Recruiters:

- Recruiter Home

Rigzone Job Alert: Twice per month this email notifies you of the latest job openings posted by leaders in the oil & gas industry.

Subscribe Today: Your Email Here

Subscribe

Your email is safe with us.
Read our privacy policy

[redacted]

You Are Here: Jobs >> Engineer - General Job Postings >> Job Pos

[redacted]

Friend's Email:

Your Email:

Subject: Project Services Lead - Houston, TX - Job Openir

Desired I
Ex
E

Date

Job Des

MAJOR
Gulf of M
medical,

Project S
Location:
Duration:
Rotation:
Start Dat
Rate: To

Based in
of Projec
located i
the Proje
Project S
Engineer

[redacted]

Delivery
relationsl
proactive
to lead th
and Orga

Experien
A minimu
+ project
experien

Educatio
Engineer

Languag
English -

Applica
In order t
criteria. I
able to a

Location:

If you've
your onli

OUTER CONTINENTAL SHELF LANDS ACT

43 U.S.C. __ 1331-1356, August 7, 1953, as amended 1975, 1978, 1984, 1986, 1987, 1990, 1992, 1994 and 1995.

Overview. This Act authorizes the Secretary of the Interior to promulgate regulations to lease the Outer Continental Shelf to prevent waste and conserve natural resources, and to issue leases through competitive bidding. The 1978 amendments provide for cancellation of leases or permits if continued activity is likely to cause serious harm to life, including aquatic life. These amendments also stipulate that economic, social, and environmental values of renewable and nonrenewable resources are to be considered in managing the Outer Continental Shelf. The Act provides for management of the area through lessee exploration plans and development and production plans.

Findings/Policy. It is the policy of the U.S. that the subsoil and seabed of the Outer Continental Shelf (OCS) appertain to the U.S. and are subject to its jurisdiction, control and power of disposition, as provided in the Act. The OCS is a vital national resource reserve which should be made available for expeditious and orderly development, subject to environmental safeguards, in a manner consistent with the maintenance of competition and other national needs. Since exploration, development and production of OCS minerals will have significant impacts on coastal states and other affected states, and recognizing the national interest in the effective management of the marine, coastal and human environments, Congress declared that: these states and their local governments may need assistance in protecting their coastal zones and other areas from adverse effects; the distribution of a portion of the receipts from the leasing of mineral resources will provide affected coastal states with funds which may be used to mitigate adverse economic and environmental effects; the states are entitled to participate in policy and planning decisions made by the federal government relating to exploration, development and production of OCS minerals. States' rights and responsibilities to preserve and protect their marine, human and coastal environments, through regulation of land, air, and water uses, safety, and related development and activity, should be considered and recognized. Operations in the OCS should be conducted in a safe manner to prevent or minimize the likelihood of blowouts, loss of well control, fires, spillages, physical obstruction to other users of the waters or subsoil and seabed, or other occurrences which may cause damage to the environment or to property, or endanger life or health. The Act shall be construed such that the character of the waters above the OCS as high seas and the right to navigation and fishing therein are not affected. _ 1332.

Definitions. Affected state: with respect to a program, plan, lease sale, or other activity proposed, conducted or approved under the Act, any state the laws of which are considered under _ 1333 to be U.S. law for the portion of the OCS involved; a state which may be connected directly by transportation facilities to an artificial island or structure referred to in _ 1333; a state which is receiving, or in accordance with a proposed activity will receive, oil for processing, refining or transshipment, extracted from the OCS and transported directly to the state by vessels or a combination of means including vessels; a state in which there is a substantial probability of significant impact on or damage to the coastal, marine or human environment, or a state in which there will be significant changes in the social, governmental or economic infrastructure resulting from the exploration, development and production of oil and gas anywhere on the OCS; or a state in which there is a significant risk of serious damage to the marine or coastal environment in the event of an oil spill, blowout or release of oil or gas from vessels, pipelines or other transshipment facilities. Coastal environment: the physical, atmospheric and biological components, conditions and factors which interactively affect the terrestrial ecosystem from the shoreline inward to the boundaries of the coastal zone. Coastal zone: the coastal waters (including the lands therein and thereunder) and the adjacent shorelands (including the waters therein and thereunder), strongly influenced by each other and in proximity to the shorelines of the coastal states, and including islands, transition and intertidal areas, salt marshes, wetlands and beaches, which zone extends seaward to the outer limit of the U.S. territorial sea and extends inland from the shorelines to the extent necessary to control shorelands, the uses of which have a direct and significant impact on coastal waters. Human environment: the physical, social and economic components, conditions and factors which interactively affect living conditions, employment and health of those affected, directly or indirectly, by activities on the OCS. Major federal action: an action or proposal by the Secretary subject to the provisions of _ 4332(2)(C) of the National Environmental Policy Act of 1969. Marine environment: the physical, atmospheric and biological components, conditions and factors which interactively affect the marine ecosystem. Mineral: includes oil, gas, sulphur, geopressured-geothermal and associated resources and all other minerals authorized by Congress to be produced from public lands as defined in _ 1702. Outer Continental Shelf (OCS): all submerged lands lying seaward and outside of the area of lands beneath navigable waters, as defined in the Submerged Lands Act, and of which

the subsoil and seabed appertain to the U.S. and are subject to its jurisdiction and control. Secretary: the Secretary of the Interior, except as to functions vested in the Secretary of Energy or Federal Energy Regulatory Commission. _ 1331.

Laws Governing OCS. The laws and civil and political jurisdiction of the U.S. extend to the subsoil and seabed of the OCS, and to all artificial islands and installations attached to the seabed that are erected to explore for, develop, produce, or transport resources. Mineral leases on the OCS are governed by the Act. To the extent they are not inconsistent with other federal laws, the civil and criminal laws of each adjacent state are the law of the U.S. for that portion of the subsoil and seabed of the OCS that would be within the state if the state's boundaries extended seaward to the outer margin of the shelf. This provision adopting state law as the law of the U.S. shall never be interpreted as a basis for claiming interest in or jurisdiction on behalf of the state for any purpose over the seabed and subsoil of the OCS, the property and natural resources thereof, or the revenues therefrom. _ 1333.

Administration of Leasing. The Secretary of the Interior is directed to administer the Act's provisions relating to the leasing of the OCS. The Secretary shall prescribe regulations to prevent waste, conserve natural resources and protective correlative rights, including provisions for: the assignment or relinquishment of a lease; unitization, pooling and drilling agreements; subsurface storage other than by the federal government; drilling or easements for exploration, development, and production; compliance with national ambient air quality standards under the Clean Air Act; suspension or temporary prohibition of an operation pursuant to a lease or permit when there is a threat of serious, irreparable or immediate harm or damage to life (including fish and other aquatic life), to property, to mineral deposits or to the marine, coastal or human environment. Cancellation is authorized where continued activity would probably cause serious harm or damage and the threat will not disappear or decrease to an acceptable level within a reasonable period of time. Cancellation may entitle the lessee to compensation using the measures of compensation set forth in the Act.

Whenever the owner of a nonproducing lease fails to comply with the Act, the lease, or regulations issued under the Act, the Secretary may cancel the lease if default continues for 30 days after notice is sent to the lessee. Producing leases may be canceled by a proceeding in federal court.

Rights-of-way through submerged lands of the OCS may be granted by the Secretary for pipelines to transport oil, natural gas, sulphur or other minerals. The regulations and conditions of issuance prescribed by the Secretary or, where appropriate, the Secretary of Transportation must assure maximum environmental protection by use of the best available and safest technologies. Every grant of authority for transportation by pipeline shall require that the pipeline be operated in accordance with competitive principles outlined in the Act.

The head of a federal agency who takes an action which has a direct and significant effect on the OCS or its development shall promptly notify the Secretary of the action. The Secretary shall notify the governor of an affected state, and may recommend appropriate changes in the action. The Act also directs the Secretary to prevent, through cooperative development of an area, the harmful effects that could result from the unrestrained production of hydrocarbons from a common hydrocarbon-bearing geological area underlying federal and state boundaries. _ 1334.

In the event of a controversy between the U.S. and a state as to whether lands are subject to the Act, the Secretary may negotiate and enter into agreements with the state, its political subdivisions, grantee or lessee respecting existing operations or the issuance of new leases pending settlement or adjudication of the controversy. _ 1336.

Lease Grants by the Secretary. The Secretary is authorized to grant oil and gas leases on submerged lands of the OCS to the highest responsible qualified bidder(s) by competitive bidding, under regulations adopted by the Secretary. The Act contains extensive provisions on lease sales, the bidding process, the terms and provisions of oil and gas leases and requirements for antitrust review of lease sales. The Act also authorizes leasing on a competitive bid basis for sulphur and other minerals besides oil and gas, under terms and conditions prescribed by the Secretary. The Secretary may reduce or eliminate royalties or net profit share in order to increase production on a lease area. 1995 amendments make special royalty relief provisions for deep water production in the Gulf of Mexico.

Amendments to the Act adopted in 1994 provide that the Secretary may negotiate agreements for use of OCS sand, gravel and shell resources for programs of shore protection, beach restoration or coastal wetland protection undertaken by federal, state or local government agencies, or for use in federally-funded or authorized construction projects. _ 1337.

Geological and Geophysical Explorations. Federal agencies and persons authorized by the Secretary may conduct geological and geophysical explorations in the OCS which do not interfere with or endanger operations under leases issued or maintained pursuant to the Act and which are not unduly harmful to aquatic life in the area.

For oil and gas leases issued or maintained under the Act, the leaseholder must submit an exploration plan to the Secretary prior to commencing exploration. The Secretary shall not grant a license or permit for activity described in an exploration plan and affecting the coastal zone of a state with a coastal zone management program approved under the Coastal Zone Management Act (CZMA) of 1972, unless the state concurs. An exploration plan shall include: a schedule of anticipated exploration activities; a description of equipment to be used; the general location of each well to be drilled; other information deemed pertinent by the Secretary. The Secretary also may require lessees to obtain permits prior to drilling wells. A permit for geological explorations shall be issued only if the Secretary determines that: the permit applicant is qualified; exploration will not interfere with or endanger operations under a lease issued or maintained under the Act; exploration will not harm unduly the area's aquatic life, result in pollution, create hazardous or unsafe conditions, unreasonably interfere with other uses of the area, or disturb any site, structure, or object of historical or archaeological significance. _ 1340.

Reservation of Lands and Rights. The President may withdraw unleased OCS lands from disposition. In time of war, or when the President so prescribes, the U.S. has the right of first refusal to purchase at market price all or a portion of any mineral produced from the OCS. Leases shall be construed to contain a provision whereby authority is vested in the Secretary during a state of war or national emergency to suspend, with payment of just compensation, operations under a lease. The U.S. reserves the right to designate areas restricted from exploration and operation needed for national defense. Uranium, thorium and other fissionable materials in whatever concentration are reserved for use by the U.S. The U.S. reserves the right to extract all helium. _ 1341.

OCS Leasing Program. The 1978 amendments to the Act directed the Secretary to prepare, periodically revise and maintain an oil and gas leasing program to implement the policies of the Act. The Secretary was required to submit the proposed program by July 1979 to Congress, the Attorney General and the governors of affected states for comment, and publish it in the *Federal Register*. Once the leasing program was approved by the Secretary, or by April 1980, whichever occurred first, no lease was to be issued unless it was for an area included in the approved leasing program, although leasing could continue until the program was approved and for so long as the program was under judicial or administrative review. The Secretary is directed to review the approved leasing program at least once a year and may revise and reapprove the program at any time, following the same preparation process as was required of the program originally, except in case of revisions which are not significant.

The OCS leasing program is to consist of a schedule of proposed lease sales indicating the size, timing and location of leasing activity that the Secretary determines will best meet national energy needs for the 5-year period following approval or reapproval. The program shall be consistent with the following two principles: (1) Management of the OCS shall be conducted in a manner which considers economic, social, and environmental values of the renewable and nonrenewable resources contained therein, and the potential impact of oil and gas exploration on other resource values and the marine, coastal and human environment. (2) Timing and location of exploration, development and production of oil and gas among the oil- and gas-bearing physiographic regions must be based on the considerations listed in the Act, including the ecological characteristics of these regions, an equitable sharing of developmental benefits and environmental risk among the various regions and the relative environmental sensitivity and marine productivity of different areas. The Secretary is to select the timing and location of leasing, to the extent practicable, to obtain a proper balance between the potentials for environmental damage, oil and gas discovery, and adverse impacts on the coastal zone.

By regulation, the Secretary must establish procedures for: receipt and consideration of nominations for areas to be offered for lease or excluded from leasing; public notice of and participation in development of the leasing program; review by state and local governments which may be impacted by the proposed leasing; periodic consultation with state governments and others engaged in activity in or on the OCS; consideration of the coastal zone management program being developed or administered by an affected coastal state under the CZMA of 1972. Within 60 days of receiving notice, affected states and local governments may make recommendations regarding the size, timing, or location of a proposed lease sale or a proposed development and production plan. The Secretary shall accept the recommendations of the governor and may accept the recommendations of the local government executive if they provide for a

reasonable balance between the national interest and the well-being of local citizens. The Secretary may enter into cooperative agreements with affected states for purposes consistent with the Act. __ 1344, 1345.

Safety and Environmental Regulations and Studies. At least six months prior to an oil and gas lease sale, the Secretary must conduct a study of areas included in the sale to establish information needed to assess and manage environmental impacts on the human, marine and coastal environments of the OCS and affected coastal areas. For an agreement for OCS sand, gravel and shell resource use under _1337, described earlier in this summary, the study is to begin at least six months prior to negotiating the agreement. To the extent practicable, studies must be designed to predict impacts on the marine biota which may result from chronic low level pollution or large spills, from drill cuttings and drilling muds, and from pipe-laying, and the impacts of development offshore on the affected and coastal areas. Subsequent to the leasing and developing of an area, the Secretary shall monitor the human, marine and coastal environments to provide time-series and data trend information to identify changes in the environments, establish trends and design experiments to identify the causes of changes. The Secretary must plan and carry out these duties in cooperation with affected states. The Secretary must submit to Congress every three years, and make available to the public, an assessment of the cumulative effect of activities conducted under the Act on the human, marine and coastal environments. _ 1346.

The Act provides for studies and regulations associated with health and safety concerns. With regard to new drilling and production operations and, when practicable, existing operations, the Act requires use of the best and safest technologies available which the Secretary determines to be economically feasible where equipment failure would have a significant effect on safety, health or the environment. The Act outlines the duties of lease and permit holders to maintain safe facilities and operations, allow onsite inspections and access to records, and directs the Secretary, the Secretary of the department in which the Coast Guard is operating, and the Secretary of the Army to enforce safety and environmental regulations adopted pursuant to the Act. __ 1347 and 1348.

Oil and Gas Development and Production. The Act requires lessees to submit development and production plans to the Secretary. A plan must include: specific work to be performed; a description of facilities and operations located on the OCS which the lessee proposes or knows to be directly related to the proposed development; environmental safeguards to be implemented and how they are to be implemented; safety standards to be met and how they are to be met; an expected development and production rate and a time schedule for performance; other information as regulations require. The Act prohibits the Secretary from granting a license or permit for an activity described in a plan which affects land or water use in the coastal zone of a state with a coastal management program approved under the CZMA of 1972, unless the state concurs or certain other conditions are met. The Secretary also must determine whether approval of a development and production plan is a major federal action under the National Environmental Policy Act of 1969. Draft environmental impact statements must be transmitted to the governors of affected states and made available to the public. Even if approval is not a major federal action, affected states and local governments have 60 days from receipt of the plan to submit comments and recommendations.

The Secretary may require modification of a plan, if the lessee has not provided for safe operations on the lease area or for protection of the human, marine or coastal environment. In some cases, the Secretary must disapprove the plan. For example, because of exceptional geological conditions or exceptional resource values in the marine or coastal environment, the plan will be disapproved if: implementation probably would cause serious harm or damage to life (including fish and other aquatic life), to the national security or defense, or to the marine, coastal or human environments; the threat of harm or damage will not disappear or decrease to an acceptable extent within a reasonable period of time; the advantages of disapproving the plan outweigh the advantages of development and production.

While the provisions of this section do not generally apply to the Gulf of Mexico, the Secretary may require that they apply to oil and gas leases in the area of the Gulf of Mexico adjacent to the state of Florida. _ 1351.

Civil Actions and Enforcement. A person having a valid legal interest which is or may be adversely affected may commence a civil action to compel compliance with the Act against any person, including the U.S., for an alleged violation of the Act, regulations, permit or lease. The person bringing suit first must provide notice to the Secretary, the state, and the alleged violator. Federal district courts have jurisdiction over cases arising out of operations conducted on the OCS which involve exploration, development, production of, or rights to minerals, or cases arising out of the cancellation, suspension, or termination of a lease or permit. An action of the Secretary to approve a leasing program is subject to judicial review only in the U.S. Court of Appeals for the District of Columbia. An action of the Secretary to approve, require

modification of, or disapprove an exploration plan or development and production plan is subject to judicial review only in a U.S. court of appeals for a circuit in which an affected state is located. _ 1349.
At the request of the Secretary, the Secretary of the department in which the Coast Guard is operating, or the Secretary of the Army, the Attorney General or a U.S. attorney shall institute a civil action for a temporary restraining order, injunction or other remedy to enforce the Act or its regulations, or the terms of a lease, license or permit. Failure to comply with the Act or its regulations, or a lease, license or permit, can result in a civil penalty of up to $20,000 a day, adjusted for increases in the Consumer Price Index. A person who knowingly and willfully violates the Act, any term of a lease, license or permit, or a regulation issued under the Act to protect health, safety or the environment, or to conserve natural resources, is liable for a criminal penalty of up to $100,000, imprisonment for up to 10 years, or both. (See the summary of the Sentencing Reform Act of 1984 for increases in the criminal fines allowed by law.) Each day that a violation continues is a separate violation. _ 1350.

OUTER CONTINENTAL SHELF LANDS ACT

43 U.S.C. §§ 1331-1356, August 7, 1953, as amended 1975, 1978, 1984, 1986, 1987, 1990, 1992, 1994 and 1995.

Overview. This Act authorizes the Secretary of the Interior to promulgate regulations to lease the Outer Continental Shelf to prevent waste and conserve natural resources, and to issue leases through competitive bidding. The 1978 amendments provide for cancellation of leases or permits if continued activity is likely to cause serious harm to life, including aquatic life. These amendments also stipulate that economic, social, and environmental values of renewable and nonrenewable resources are to be considered in managing the Outer Continental Shelf. The Act provides for management of the area through lessee exploration plans and development and production plans.

Findings/Policy. It is the policy of the U.S. that the subsoil and seabed of the Outer Continental Shelf (OCS) appertain to the U.S. and are subject to its jurisdiction, control and power of disposition, as provided in the Act. The OCS is a vital national resource reserve which should be made available for expeditious and orderly development, subject to environmental safeguards, in a manner consistent with the maintenance of competition and other national needs. Since exploration, development and production of OCS minerals will have significant impacts on coastal states and other affected states, and recognizing the national interest in the effective management of the marine, coastal and human environments, Congress declared that: these states and their local governments may need assistance in protecting their coastal zones and other areas from adverse effects; the distribution of a portion of the receipts from the leasing of mineral resources will provide affected coastal states with funds which may be used to mitigate adverse economic and environmental effects; the states are entitled to participate in policy and planning decisions made by the federal government relating to exploration, development and production of OCS minerals. States' rights and responsibilities to preserve and protect their marine, human and coastal environments, through regulation of land, air, and water uses, safety, and related development and activity, should be considered and recognized. Operations in the OCS should be conducted in a safe manner to prevent or minimize the likelihood of blowouts, loss of well control, fires, spillages, physical obstruction to other users of the waters or subsoil and seabed, or other occurrences which may cause damage to the environment or to property, or endanger life or health. The Act shall be construed such that the character of the waters above the OCS as high seas and the right to navigation and fishing therein are not affected. § 1332.

Definitions. Affected state: with respect to a program, plan, lease sale, or other activity proposed, conducted or approved under the Act, any state the laws of which are considered under § 1333 to be U.S. law for the portion of the OCS involved; a state which may be connected directly by transportation facilities to an artificial island or structure referred to in § 1333; a state which is receiving, or in accordance with a proposed activity will receive, oil for processing, refining or transshipment, extracted from the OCS and transported directly to the state by vessels or a combination of means including vessels; a state in which there is a substantial probability of significant impact on or damage to the coastal, marine or human environment, or a state in which there will be significant changes in the social, governmental or economic infrastructure resulting from the exploration, development and production of oil and gas anywhere on the OCS; or a state in which there is a significant risk of serious damage to the marine or coastal environment in the event of an oil spill, blowout or release of oil or gas from vessels,

pipelines or other transshipment facilities. Coastal environment: the physical, atmospheric and biological components, conditions and factors which interactively affect the terrestrial ecosystem from the shoreline inward to the boundaries of the coastal zone. Coastal zone: the coastal waters (including the lands therein and thereunder) and the adjacent shorelands (including the waters therein and thereunder), strongly influenced by each other and in proximity to the shorelines of the coastal states, and including islands, transition and intertidal areas, salt marshes, wetlands and beaches, which zone extends seaward to the outer limit of the U.S. territorial sea and extends inland from the shorelines to the extent necessary to control shorelands, the uses of which have a direct and significant impact on coastal waters. Human environment: the physical, social and economic components, conditions and factors which interactively affect living conditions, employment and health of those affected, directly or indirectly, by activities on the OCS. Major federal action: an action or proposal by the Secretary subject to the provisions of § 4332(2)(C) of the National Environmental Policy Act of 1969. Marine environment: the physical, atmospheric and biological components, conditions and factors which interactively affect the marine ecosystem. Mineral: includes oil, gas, sulphur, geopressured-geothermal and associated resources and all other minerals authorized by Congress to be produced from public lands as defined in § 1702. Outer Continental Shelf (OCS): all submerged lands lying seaward and outside of the area of lands beneath navigable waters, as defined in the Submerged Lands Act, and of which the subsoil and seabed appertain to the U.S. and are subject to its jurisdiction and control. Secretary: the Secretary of the Interior, except as to functions vested in the Secretary of Energy or Federal Energy Regulatory Commission. § 1331.

Laws Governing OCS. The laws and civil and political jurisdiction of the U.S. extend to the subsoil and seabed of the OCS, and to all artificial islands and installations attached to the seabed that are erected to explore for, develop, produce, or transport resources. Mineral leases on the OCS are governed by the Act.

To the extent they are not inconsistent with other federal laws, the civil and criminal laws of each adjacent state are the law of the U.S. for that portion of the subsoil and seabed of the OCS that would be within the state if the state's boundaries extended seaward to the outer margin of the shelf. This provision adopting state law as the law of the U.S. shall never be interpreted as a basis for claiming interest in or jurisdiction on behalf of the state for any purpose over the seabed and subsoil of the OCS, the property and natural resources thereof, or the revenues therefrom. § 1333.

Administration of Leasing. The Secretary of the Interior is directed to administer the Act's provisions relating to the leasing of the OCS. The Secretary shall prescribe regulations to prevent waste, conserve natural resources and protective correlative rights, including provisions for: the assignment or relinquishment of a lease; unitization, pooling and drilling agreements; subsurface storage other than by the federal government; drilling or easements for exploration, development, and production; compliance with national ambient air quality standards under the Clean Air Act; suspension or temporary prohibition of an operation pursuant to a lease or permit when there is a threat of serious, irreparable or immediate harm or damage to life (including fish and other aquatic life), to property, to mineral deposits or to the marine, coastal or human environment. Cancellation is authorized where continued activity would probably cause serious harm or damage and the threat will not disappear or decrease to an

acceptable level within a reasonable period of time. Cancellation may entitle the lessee to compensation using the measures of compensation set forth in the Act.

Whenever the owner of a nonproducing lease fails to comply with the Act, the lease, or regulations issued under the Act, the Secretary may cancel the lease if default continues for 30 days after notice is sent to the lessee. Producing leases may be canceled by a proceeding in federal court.

Rights-of-way through submerged lands of the OCS may be granted by the Secretary for pipelines to transport oil, natural gas, sulphur or other minerals. The regulations and conditions of issuance prescribed by the Secretary or, where appropriate, the Secretary of Transportation must assure maximum environmental protection by use of the best available and safest technologies. Every grant of authority for transportation by pipeline shall require that the pipeline be operated in accordance with competitive principles outlined in the Act.

The head of a federal agency who takes an action which has a direct and significant effect on the OCS or its development shall promptly notify the Secretary of the action. The Secretary shall notify the governor of an affected state, and may recommend appropriate changes in the action. The Act also directs the Secretary to prevent, through cooperative development of an area, the harmful effects that could result from the unrestrained production of hydrocarbons from a common hydrocarbon-bearing geological area underlying federal and state boundaries. § 1334.

In the event of a controversy between the U.S. and a state as to whether lands are subject to the Act, the Secretary may negotiate and enter into agreements with the state, its political subdivisions, grantee or lessee respecting existing operations or the issuance of new leases pending settlement or adjudication of the controversy. § 1336.

Lease Grants by the Secretary. The Secretary is authorized to grant oil and gas leases on submerged lands of the OCS to the highest responsible qualified bidder(s) by competitive bidding, under regulations adopted by the Secretary. The Act contains extensive provisions on lease sales, the bidding process, the terms and provisions of oil and gas leases and requirements for antitrust review of lease sales. The Act also authorizes leasing on a competitive bid basis for sulphur and other minerals besides oil and gas, under terms and conditions prescribed by the Secretary. The Secretary may reduce or eliminate royalties or net profit share in order to increase production on a lease area. 1995 amendments make special royalty relief provisions for deep water production in the Gulf of Mexico.

Amendments to the Act adopted in 1994 provide that the Secretary may negotiate agreements for use of OCS sand, gravel and shell resources for programs of shore protection, beach restoration or coastal wetland protection undertaken by federal, state or local government agencies, or for use in federally-funded or authorized construction projects. § 1337.

Geological and Geophysical Explorations. Federal agencies and persons authorized by the Secretary may conduct geological and geophysical explorations in the OCS which do not interfere with or endanger operations under leases issued or maintained pursuant to the Act and which are not unduly harmful to aquatic life in the area.

For oil and gas leases issued or maintained under the Act, the leaseholder must submit an exploration plan to the Secretary prior to commencing exploration. The Secretary shall not grant a license or permit for activity described in an exploration plan and affecting the

coastal zone of a state with a coastal zone management program approved under the Coastal Zone Management Act (CZMA) of 1972, unless the state concurs. An exploration plan shall include: a schedule of anticipated exploration activities; a description of equipment to be used; the general location of each well to be drilled; other information deemed pertinent by the Secretary. The Secretary also may require lessees to obtain permits prior to drilling wells. A permit for geological explorations shall be issued only if the Secretary determines that: the permit applicant is qualified; exploration will not interfere with or endanger operations under a lease issued or maintained under the Act; exploration will not harm unduly the area's aquatic life, result in pollution, create hazardous or unsafe conditions, unreasonably interfere with other uses of the area, or disturb any site, structure, or object of historical or archaeological significance. § 1340.

Reservation of Lands and Rights. The President may withdraw unleased OCS lands from disposition. In time of war, or when the President so prescribes, the U.S. has the right of first refusal to purchase at market price all or a portion of any mineral produced from the OCS. Leases shall be construed to contain a provision whereby authority is vested in the Secretary during a state of war or national emergency to suspend, with payment of just compensation, operations under a lease. The U.S. reserves the right to designate areas restricted from exploration and operation needed for national defense. Uranium, thorium and other fissionable materials in whatever concentration are reserved for use by the U.S. The U.S. reserves the right to extract all helium. § 1341.

OCS Leasing Program. The 1978 amendments to the Act directed the Secretary to prepare, periodically revise and maintain an oil and gas leasing program to implement the policies of the Act. The Secretary was required to submit the proposed program by July 1979 to Congress, the Attorney General and the governors of affected states for comment, and publish it in the *Federal Register*. Once the leasing program was approved by the Secretary, or by April 1980, whichever occurred first, no lease was to be issued unless it was for an area included in the approved leasing program, although leasing could continue until the program was approved and for so long as the program was under judicial or administrative review. The Secretary is directed to review the approved leasing program at least once a year and may revise and reapprove the program at any time, following the same preparation process as was required of the program originally, except in case of revisions which are not significant.

The OCS leasing program is to consist of a schedule of proposed lease sales indicating the size, timing and location of leasing activity that the Secretary determines will best meet national energy needs for the 5-year period following approval or reapproval. The program shall be consistent with the following two principles: (1) Management of the OCS shall be conducted in a manner which considers economic, social, and environmental values of the renewable and nonrenewable resources contained therein, and the potential impact of oil and gas exploration on other resource values and the marine, coastal and human environment. (2) Timing and location of exploration, development and production of oil and gas among the oil- and gas-bearing physiographic regions must be based on the considerations listed in the Act, including the ecological characteristics of these regions, an equitable sharing of developmental benefits and environmental risk among the various regions and the relative environmental sensitivity and marine productivity of different areas. The Secretary is to select the timing and location of leasing, to the extent practicable, to obtain a proper balance between the

potentials for environmental damage, oil and gas discovery, and adverse impacts on the coastal zone.

By regulation, the Secretary must establish procedures for: receipt and consideration of nominations for areas to be offered for lease or excluded from leasing; public notice of and participation in development of the leasing program; review by state and local governments which may be impacted by the proposed leasing; periodic consultation with state governments and others engaged in activity in or on the OCS; consideration of the coastal zone management program being developed or administered by an affected coastal state under the CZMA of 1972. Within 60 days of receiving notice, affected states and local governments may make recommendations regarding the size, timing, or location of a proposed lease sale or a proposed development and production plan. The Secretary shall accept the recommendations of the governor and may accept the recommendations of the local government executive if they provide for a reasonable balance between the national interest and the well-being of local citizens. The Secretary may enter into cooperative agreements with affected states for purposes consistent with the Act. §§ 1344, 1345.

Safety and Environmental Regulations and Studies. At least six months prior to an oil and gas lease sale, the Secretary must conduct a study of areas included in the sale to establish information needed to assess and manage environmental impacts on the human, marine and coastal environments of the OCS and affected coastal areas. For an agreement for OCS sand, gravel and shell resource use under §1337, described earlier in this summary, the study is to begin at least six months prior to negotiating the agreement. To the extent practicable, studies must be designed to predict impacts on the marine biota which may result from chronic low level pollution or large spills, from drill cuttings and drilling muds, and from pipe-laying, and the impacts of development offshore on the affected and coastal areas. Subsequent to the leasing and developing of an area, the Secretary shall monitor the human, marine and coastal environments to provide time-series and data trend information to identify changes in the environments, establish trends and design experiments to identify the causes of changes. The Secretary must plan and carry out these duties in cooperation with affected states. The Secretary must submit to Congress every three years, and make available to the public, an assessment of the cumulative effect of activities conducted under the Act on the human, marine and coastal environments. § 1346.

The Act provides for studies and regulations associated with health and safety concerns. With regard to new drilling and production operations and, when practicable, existing operations, the Act requires use of the best and safest technologies available which the Secretary determines to be economically feasible where equipment failure would have a significant effect on safety, health or the environment. The Act outlines the duties of lease and permit holders to maintain safe facilities and operations, allow onsite inspections and access to records, and directs the Secretary, the Secretary of the department in which the Coast Guard is operating, and the Secretary of the Army to enforce safety and environmental regulations adopted pursuant to the Act. §§ 1347 and 1348.

Oil and Gas Development and Production. The Act requires lessees to submit development and production plans to the Secretary. A plan must include: specific work to be performed; a description of facilities and operations located on the OCS which the

lessee proposes or knows to be directly related to the proposed development; environmental safeguards to be implemented and how they are to be implemented; safety standards to be met and how they are to be met; an expected development and production rate and a time schedule for performance; other information as regulations require. The Act prohibits the Secretary from granting a license or permit for an activity described in a plan which affects land or water use in the coastal zone of a state with a coastal management program approved under the CZMA of 1972, unless the state concurs or certain other conditions are met. The Secretary also must determine whether approval of a development and production plan is a major federal action under the National Environmental Policy Act of 1969. Draft environmental impact statements must be transmitted to the governors of affected states and made available to the public. Even if approval is not a major federal action, affected states and local governments have 60 days from receipt of the plan to submit comments and recommendations.

The Secretary may require modification of a plan, if the lessee has not provided for safe operations on the lease area or for protection of the human, marine or coastal environment. In some cases, the Secretary must disapprove the plan. For example, because of exceptional geological conditions or exceptional resource values in the marine or coastal environment, the plan will be disapproved if: implementation probably would cause serious harm or damage to life (including fish and other aquatic life), to the national security or defense, or to the marine, coastal or human environments; the threat of harm or damage will not disappear or decrease to an acceptable extent within a reasonable period of time; the advantages of disapproving the plan outweigh the advantages of development and production.

While the provisions of this section do not generally apply to the Gulf of Mexico, the Secretary may require that they apply to oil and gas leases in the area of the Gulf of Mexico adjacent to the state of Florida. § 1351.

Civil Actions and Enforcement. A person having a valid legal interest which is or may be adversely affected may commence a civil action to compel compliance with the Act against any person, including the U.S., for an alleged violation of the Act, regulations, permit or lease. The person bringing suit first must provide notice to the Secretary, the state, and the alleged violator. Federal district courts have jurisdiction over cases arising out of operations conducted on the OCS which involve exploration, development, production of, or rights to minerals, or cases arising out of the cancellation, suspension, or termination of a lease or permit. An action of the Secretary to approve a leasing program is subject to judicial review only in the U.S. Court of Appeals for the District of Columbia. An action of the Secretary to approve, require modification of, or disapprove an exploration plan or development and production plan is subject to judicial review only in a U.S. court of appeals for a circuit in which an affected state is located. § 1349.

At the request of the Secretary, the Secretary of the department in which the Coast Guard is operating, or the Secretary of the Army, the Attorney General or a U.S. attorney shall institute a civil action for a temporary restraining order, injunction or other remedy to enforce the Act or its regulations, or the terms of a lease, license or permit. Failure to comply with the Act or its regulations, or a lease, license or permit, can result in a civil penalty of up to $20,000 a day, adjusted for increases in the Consumer Price Index. A person who knowingly and willfully violates the Act, any term of a lease, license or permit, or a regulation issued under the Act to protect health, safety or the environment,

or to conserve natural resources, is liable for a criminal penalty of up to $100,000, imprisonment for up to 10 years, or both. (See the summary of the Sentencing Reform Act of 1984 for increases in the criminal fines allowed by law.) Each day that a violation continues is a separate violation. § 1350.

Recruitment fraud

It has come to our attention that various individuals and organizations are contacting people offering false employment opportunities in BP. We are taking this matter extremely seriously, and we are currently working with the appropriate legal authorities to terminate this fraudulent scheme. By making you aware of this, we hope to avoid and ultimately stop victims falling for this scam.

What is Recruitment fraud?

Recruitment fraud is a sophisticated fraud offering fictitious job opportunities. This type of fraud is normally done through online services such as bogus websites, or through unsolicited e-mails claiming to be from BP. These emails request recipients to provide personal information and ultimately payments to progress false applications.

How to identify Recruitment fraud

The perpetrators will often ask recipients to complete bogus recruitment documentation, such as application forms, terms and conditions of employment or visa forms. The BP name and logo is often featured on the documentation without authority

There is an early request for personal information such as address details, date of birth, CV, passport details, bank details etc.

Candidates are requested to contact other companies/individuals such as lawyers, bank officials, travel agencies, courier companies, visa/ immigration processing agencies etc.

E-mail correspondence is often sent from (or to) free web-based e-mail accounts such as Yahoo.com, Yahoo.co.uk, Gmail.com, Googlemail.com, Live.com

etc.
The perpetrators frequently use mobile or platform telephone numbers beginning
with +44(0)70 instead of official company numbers.
The perpetrators may even offer to pay a large percentage of the fees requested and ask the candidate to pay the remaining amount.
There is an insistence on urgency
What should I do?
Do

Contact us at bprecruiting@bp.com and MAKE SURE THAT YOU INCLUDE THE THREE
ITEMS BELOW. If your email is missing any one of these three items, it will
take us longer to investigate and identify the perpetrators.
Original subject line: Please do not change the original subject line of the
email you received
Complete headers: Email headers contain a detailed record of the specific
route that an email took through the internet when it was sent to you. This
means it can help us identify the perpetrators,Äô location(s). Full header
information is included in every email that is sent. However, often email
programs do not display the complete headers. The link below explains how to
find this information so that you can send it to us
Complete message body: Please include the complete, unedited content of the
email message in question. Do not change or edit the message in any way
Save messages from the perpetrator for further investigation if necessary
We would advise you to contact your local police and provide them with all
information you may have from the senders
Do not

Respond to unsolicited business propositions and/or offers of employment from
people with whom you are unfamiliar
Disclose your personal or financial details to anyone you do not know
Send any money. BP does not ask for money transfers or payments from applicants to secure a job, either as an employee or as a contractor
Engage in further communication if you believe the communications may be fraudulent

Lottery fraud
We are also aware of another fraud involving an online lottery. Please note that
BP does not run such a lottery.

If you have been notified that you have won a large sum of money in an online
prize lottery you should assume that this notification is fraudulent.
If you wish to determine whether an individual or organization offering such
prizes is genuine, please contact us at the email address above.

We are taking this matter extremely seriously, and are passing all information
relating to these frauds to the legal authorities for appropriate action.
Printer friendly versionInternet email headers
Not sure how to find internet email headers?
back to top

Site Index | Legal Notice | Privacy Statement ¬© 1999-2009 BP p.l.c.

This agreement is entered into and made effective the 18th day of Augusth 2008 by and between:

Swift Technical Services LLC, a corporation organized and existing under the laws of the United States with its registered offices at 3050 Post Oak Blvd., Suite 1450, Houston, Texas 77056 (hereinafter referred to as "COMPANY") of the one part and;

Kenneth Abbott (hereinafter referred to as "CONTRACTOR") of the other part;

EXHIBIT A – SPECIFIC CONDITIONS

Project:	**Atlantis Project**
Services:	**Subsea Project Services Leader**
Commencement Date:	**18 August 2008**
Completion Date:	**18 August 2010 (subject to extension)**
Working Hours:	**9/80 Schedule (or in accordance with operational requirements)**
Base Location:	**Houston, Texas - United States**
Rate:	**US $900.00 per day worked**
Medical, dental, vision, life insurance, AD&D Insurance and long term disability:	**Provided by Company for Contractor. Family members may be covered at Contractor's own cost.**
401K:	**Provided by Company for Contractor – Company provides a full (100%) match of contributions made by Contractor, up to 5% of Contractor's gross pay.**

In Witness Whereof, the parties have duly executed this Agreement in duplicate originals.

For and on behalf of **Swift Technical Services LLC**

Karlny Ritter
Contracts Administrator

Date: July 23, 2008

I hereby accept this Agreement on the terms and conditions set out above
Kenneth Abbott

Date: 7/23/08

EXHIBIT B – GENERAL TERMS AND CONDITIONS

1.0 Interpretation

1.2 Reference to any statute, statutory provision or statutory instrument includes a reference to that statute, statutory provision or statutory instrument as from time to time amended, extended or re-enacted.

1.3 Reference to the singular includes a reference to the plural and vice versa and reference to one gender includes a reference to the other gender.

1.4 Headings are used for convenience only and will not affect the construction or validity of this Contract.

2.0 Definitions

2.1 "Affiliate or Affiliates" of a company shall mean a current or future Person directly or indirectly controlling, controlled by, or under common control with such company. "Control" for this purpose shall, in the case of a corporation with outstanding voting stock, require the direct or indirect ownership of or power to vote with respect to outstanding shares of a corporation's capital stock constituting fifty percent (50%) or more of the votes of any class of such corporation's outstanding voting stock, and with respect to any Person other than a corporation, the possession, directly or indirectly, of the power to direct or cause the direction of such person's management or policies.

2.2 "Approved" shall mean approved in writing (including subsequent written confirmation of previous verbal approval) and "Approval" means approval in writing (including subsequent written confirmation of previous verbal approval).

2.3 "Work" shall mean the consulting services to be performed pursuant to this Contract.

2.4 "Work Site(s)" shall mean the location or locations on, under, in, or through which the Work is to be performed by Contractor.

2.5 "Client" shall refer to BP America Production Company.

2.6 "Company" shall mean Swift Technical Services LLC.

2.7 "Contractor" shall mean Kenneth Abbott.

3.0 Performance

Contractor shall perform the Work in a diligent, skillful, safe and workmanlike manner, and in accordance with the highest level of accepted standards within the industry to prompt completion subject to all of the terms and conditions of this Contract and to the satisfaction of Company and Company's representative.

4.0 Contractor to Inform Itself

Contractor is deemed to have accepted the terms and conditions of this agreement upon commencement of the services.

5.0 Insurance

5.1 The Contractor shall not cause or permit the use of any motor vehicle for any business purposes in connection with the Works unless adequate third party insurance cover is in force in respect of such user. The Contractor will at all times keep the Client/Company indemnified against any liability (whether in respect of any insured risk or otherwise) incurred by the Client/Company or arising otherwise in connection with the use of any motor vehicle for any such purpose.

5.2 Contractor shall endeavour to notify Company in the event they are required to work offshore, in order to ensure full insurance compliance

4.0 Payment

4.1 Contractor shall complete timesheets and expense claim forms (where applicable) and submit to Client Representative for approval.

We advise that all timesheets and expenses are due in accordance with the attached payroll schedule.

Expense claim forms must be supported by original receipts.

4.2 Should Client dispute any invoice from Company relating to Contractor's payment which results in Client deducting monies from Company, Company shall deduct the equivalent from Contractor's next payment.

4.3 No payment shall be made by Company to Contractor when absent from work for any reason whatsoever. Only time actually worked by Contractor on the authorised business of client shall be reimbursable.

5.0 Taxation

Unless otherwise stated under Exhibit A, Company may at all times during the continuance of the Services make all such deductions of or on account of income tax, social taxes and such other taxes, contributions, levies or imposts as may from time to time be deductible by or due from the Contract in respect of or in connection with the monies paid by the Company to Contractor.

6.0 Termination

6.1 Company may, at any time, with or without cause, terminate this contract, by giving five (5) Days' written notice to Contractor specifying the date of termination (hereafter referred to as the "Termination Date").

6.2 Regardless of the basis for termination, on the Termination Date, Contractor shall discontinue the Work and comply with the applicable provisions of this Article and any other applicable provisions of the Contract. Contractor shall preserve all work in progress and shall turn over the Work to Client in accordance with Client's instructions.

6.3 Upon termination as provided for in this Article, title to and possession of all permits, licenses, drawings, data, specifications, or other items acquired for Client will immediately thereon pass to and vest in Client.

6.4 Contractor shall not without the prior consent of the Company, for a period of twelve (12) months after the termination of their employment directly or indirectly and whether on their own behalf or on behalf of any other business concern, person, partnership, firm, company or other body, be engaged, concerned or interested in any capacity, in the Client or in any other business which is wholly or partly connected to the project where assigned by the Company under this agreement.

7.0 Medical Policy

7.1 Contractor warrants that they are medically fit to perform the Services.

7.2 Contractor shall complete and sign the attached medical form and return to Company. Failure to do so may constitute as a material breach of this contract and as a result Company may remove Contractor from the area of operations.

7.3 It is the Contractor's responsibility to notify Company should they be required to travel on business outside the USA, in order for the Company to cover them under their emergency medical policy.

7.4 Contractor must ensure that they are medically fit to work on overseas assignments and provide Company with a medical certificate of fitness, prior to undertaking a business trip.

7.5 All costs associated in obtaining the appropriate medical examination must be borne by Contractor.

8.0 Independent Contractor

In the performance of the Work, Contractor is an independent contractor, shall control the performance of the details of the Work, and shall be responsible for the results as well as responsible for ensuring that the performance of the Work is conducted in a manner consistent with appropriate safety, health, and environmental considerations, including, but not limited to, Client's policies thereon. The Work may be supplemented by instructions from Client's representative(s), and Client reserves the rights of observation and inspection to secure satisfactory completion of Work.

9.0 Confidentiality

9.1 Contractor agrees that Client Background Information (as defined in Section 14.1), Developed Information (as defined in Section 14.2), and any other technical or business information (hereinafter "Client Confidential Information") that is disclosed to Contractor in connection with any Work hereunder by Client, either orally or in writing, is to be treated as confidential and proprietary. Contractor agrees that Client Confidential Information will be maintained in strict confidence and not used or disclosed to Third Parties other than in performing Work for Client. The requirement to maintain information in strict confidence, however, shall not apply to Client Confidential Information that: (i) is or becomes generally available to the public through no wrongful act of Contractor; (ii) was in the possession of Contractor prior to the time it was acquired hereunder and was not acquired, directly or indirectly, from Client or its Affiliates or from others under an obligation of confidentiality; (iii) is independently made available as a matter of right to Contractor by a Third Party without obligations of confidentiality, provided that such Third Party did not acquire such information directly or indirectly from Client or its Affiliates; or (iv) is required by law to be divulged, provided that Contractor must notify Client prior to any disclosure, and must assist Client in minimizing the extent of disclosure.

9.2 Contractor acknowledges and agrees that Client, in its sole discretion, may deliver and/or store Client Confidential Information in digital form on the Internet, extranets and/or through public networks and service providers. Such digital information will be stored on internal or external computers and accessed from public telecommunications networks, and will be accessible by a controlled group of Persons (the "Controlled Group"). Contractor agrees that the delivery and storage of such Client Confidential Information in this manner must not be deemed as making the information generally available to the public, even if such Client Confidential Information is accessed by Persons who are not within the Controlled Group.

9.3 Contractor must not disclose Client Confidential Information to any Third Party or use it or any part thereof except in the performance of the Work. Contractor must not make nor permit the making of any copies, abstracts, derivatives, or summaries of any Client Confidential Information, except in the performance of the Work. Upon completion of Work for Client, or at Client's request, Contractor must return all Client Confidential Information (including, but not limited to, all copies, abstracts, derivatives, and summaries).

9.4 No press release or other public announcement or public disclosure having or containing any reference, either directly or by implication, to this Contract or the transactions herein contemplated, or to Client or any other Persons of Client Group, will be made or used by Contractor or on its behalf, unless the same has been Approved by an authorized officer of Client. This prohibition specifically includes, but is not limited to, any public release (either through print or broadcast news media), any articles prepared for internal or external publication, technical papers, and discussions with journalists or other Third Parties.

10.0 Force Majeure

Except as may be specifically otherwise provided in this Contract, neither Party shall be liable for delays in performance or for non-performance directly occasioned or caused by Force Majeure. Should conditions in the location where the Work is performed, in the reasonable opinion of Company, become such that continuance of the Work would be unduly hazardous, Company may suspend the Work and such suspension will be considered Force Majeure. Inability of either Party to secure funds will not be regarded as Force Majeure. Upon the occurrence of Force Majeure, the Party affected shall give immediate notice thereof to the other Party and shall, at its cost and expense, do all things reasonably possible to remove or mitigate its effects

11.0 Suspension

11.1 Company shall have the right to suspend all or any part of the Work at any time and at its sole discretion by giving written notice of suspension to Contractor.

11.2 Upon termination of any such suspension, Contractor shall immediately re-commence the Work under the terms and conditions of this Contract with the same labor and resources as were previously employed on the Work.

12.0 Compliance with Laws

12.1 Company warrants that Contractors are familiar with and knowledgeable about all relevant laws, rules regulations, decrees, federal, state and local, which are now or may become applicable to the Contract and any Work performed in connection herewith, including without limitation, those pertaining to immigration, health, safety, security, and environmental protection (hereinafter sometimes referred to as the "Laws") and Contractor warrants that in conducting the Work hereunder it will comply with all such Laws.

12.2 Contractor shall not pay any fee, commission, rebate, or other value to or for the benefit of any governmental official having jurisdiction over the Work Site, if such payment would be inconsistent with or penalized by the laws and regulations of the United States.

12.3 Contractor agrees to Indemnify Company Group from and against any Claims/Losses resulting from Contractor's failure to comply with all applicable Laws.

12.4 If any portion of the Work will occur on the Outer Continental Shelf, then Company shall supply individuals who are authorized under the laws of the United States to perform the Work. Any individual who lacks such authorization will not be allowed to take part in the portion of the Work that occurs on the Outer Continental Shelf.

13.0 Intellectual Property and Indemnification

13.1 Background Information. "Information" means any information embodied in any tangible form including, but not limited to, a work of authorship, a process diagram, a drawing, a blueprint, a model, a specification, a report, a manuscript, a document, a manual, a photograph, a database, a computer program, a design for an apparatus or process or system, working notes, a plan, or a model. "Contractor Background Information" means any Information that was created by or for Contractor prior to making this Contract that is directly related to the Work, and Information that was made at no expense to Client. "Client Background Information" means any Information that was created by or for Client prior to making this Contract, and Information that is directly related to the Work. All Client Background Information is Client's property, must not be used by Contractor for any purpose except for the performance of the Work, and must be returned to Client at the completion of the Work or upon Client's request. All IP Rights (defined in Section 13.3) in Client Background Information remains the property of Client. All IP Rights in Contractor Background Information remains the property of Contractor. Each Party hereby grants to the other Party a non-exclusive, irrevocable, worldwide, royalty-free right and license to use and to copy its Background Information solely in connection with and for the performance of the Work.

13.2 Tangible Personal Property. "Developed Information" means all Information that is embodied in any tangible form and that is created by Contractor for Client in performance of the Work. Client owns all right, title, and interest in and to Developed Information. Ownership of Developed Information does not include ownership of any Contractor Background Information that may be embedded in the Developed Information. Developed Information must be clearly marked by Contractor as Client's property. Unless clearly and unequivocally stated otherwise in writing and expressly agreed to by Client, Contractor must furnish to Client at least one (1) tangible copy of Developed Information, or any part thereof upon request by Client, and at least one (1) tangible copy of Developed Information upon completion of the Work. If requested by Client, appropriate portions of such Developed Information will be furnished in electronic format.

13.3 Intangible Personal Property. "Intellectual Property Rights" ("IPR" or "IP Rights") means copyrights, patents, trade secrets, and other intellectual property rights. "Underlying Contractor IP Rights" means IP Rights that are owned by or licensed to Contractor, and that cover Contractor Background Information embedded in the Developed Information (or any part thereof). With the exception of Underlying Contractor IP Rights, all IP Rights in and covering the Developed Information and created by Contractor hereunder vest solely in Client ("Client IPR"); provided, however, that Client hereby grants to Contractor a non-exclusive, non-transferable, worldwide, royalty-free right and license under such Client IPR to use such Developed Information only for the benefit of Client. IP Rights in the form of trade secrets will be disclosed to the other Party only to the extent necessary and only for the purpose of performing the Work.

13.4 Copyrights. With the exception of any Underlying Contractor IP Rights, all Developed Information in the form of original works of authorship which are fixed in any tangible form and created by or on behalf of Contractor hereunder (hereinafter collectively referred to as "Creative Materials") and which are covered by the definition of "work for hire" under 17-U.S.C. 101 of the U.S. Copyright Act of 1976, are considered a "work for hire," and Client is the owner of all copyrights in any such works. As to any such Creative Materials created for Client which are not covered under the aforementioned "work for hire" definition of the Copyright Act, such that Contractor is regarded as the copyright author and owner, Contractor agrees to assign and hereby assigns all such copyright ownership in the Creative Materials to Client. Any copyright notice displayed on the Creative Materials must be in Client's name and not in Contractor's name. Contractor agrees to execute and deliver to Client any required documents and do all acts necessary to perfect Client's entire right, title, and interest in the Creative Materials. Client has the right to photograph, reproduce, copy, duplicate, modify, and make any use of Developed Information under any copyrights or equivalent rights held by Contractor.

13.5 Inventions. Contractor hereby assigns, conveys, and transfers to Client (and must require its employees, agents, representatives, and subcontractors to assign, convey, and transfer to Client), without further consideration, each and every invention, discovery, or improvement that is made, conceived, or developed by Contractor or such others as a direct result of performing the Work. Contractor must promptly notify Client whenever an invention, discovery, or improvement is made, conceived, or developed. Upon Client's request, Contractor must execute any required documents and do all acts necessary to perfect Client's entire right, title, and interest in such inventions, discoveries, and improvements. Client has sole responsibility for the preparation, filing, and prosecution of all applications for Letters Patent and will bear all costs and expenses in connection therewith. Client is under no obligation to file any patent application, secure any patent, or maintain any patent in force.

13.6 Covenants. Contractor represents that it has not and will not breach or infringe any IP Rights of any Third Party in performance of the Work. Contractor must inform Client if Contractor requires any license or similar right under a Third Party's IP Rights, or the performance of the Work requires the payment of any royalty or similar fee by or for Client. Contractor agrees to Indemnify Client Group from any Claim/Loss which may be brought against any member of Client Group at any time for breach of contract or infringement of any IP Rights allegedly relating to the performance of any Work hereunder; provided, however, that Client promptly notifies Contractor in writing of the institution of such action or suit and permits Contractor to control its Defense. Contractor must Indemnify Client Group from any damages or other sums awarded or assessed in any such action or suit. Any settlements thereon must be Approved by Client. Client may be represented by counsel of its own selection at its own expense, and agrees to cooperate fully in the Defense of any such action or suit.

13.7 Client Rights. Unless clearly and unequivocally stated otherwise and expressly agreed to by Client in writing, if the Work includes, but is not limited to, engineering or professional services, technical assistance or consultation, or authoring or creating a design or a plan for equipment, hardware, software, apparatus, process, and/or system, and if the Contractor will not make, not build, not construct, or not obtain for Client such equipment, hardware, software, apparatus, process, or system, Contractor grants to Client Group and/or will obtain for Client Group, a royalty free, paid-up, non-exclusive, irrevocable, world-wide license and right: (i) to own and have possession of all forms of such design or plan; (ii) to copy and make derivatives of such design or plan; (iii) to use such design or plan; (iv) to make all such equipment, hardware, software, apparatus, process, and/or system from such design or plan; (v) to import, use, install, test, commission, operate, maintain, alter, repair, rebuild, retrofit, convert, and decommission such equipment, hardware, software, apparatus, process, and/or system without limitation; (vi) to sell, offer for sale, donate, lease, sublease, and rent such equipment, hardware, software, apparatus, process, and/or system; and (vii) to assign and transfer any or all of such rights without limitation.

Contractor agrees that if Contractor cannot grant to Client the rights to do all the things described in this Section 13.7, it will obtain such rights at no cost to Client.

14.0 Applicable Law

14.1 This Contract may govern Work furnished by Contractor to Company in several different jurisdictions. With respect to the selection of governing law in this Article, the Parties stipulate that certainty of enforcement is an important expectation negotiated between the Parties in entering this Contract.

14.2 To the maximum extent permissible, this Contract, and any action Connected With this Contract brought by either Party (and any action brought by any member of Company Group or Client Group or any Third Party asserting a third party beneficiary claim pursuant to this Contract) shall be governed by the laws of the State of Colorado.

14.3 In the event Colorado law is held to be inapplicable by a court of competent jurisdiction, the laws of the state where the Work is performed hereunder shall apply unless application of such law to a particular provision would prevent enforcement of such provision, in which case the law applicable to such provision shall be any potentially applicable law that would allow enforcement of said provision as written.

15.0 Code of Conduct

In connection with Contractor's performance of this Contract, Contractor agrees to act consistently with the BP Code of Conduct (www.bp.com) and to adhere to the principles set out therein, including our principles of non-retaliation against "whistle blowers." Any failure to do so by Contractor shall be deemed a material breach of this Contract.

Error! Filename not specified.

HOME

NEWS

EVENTS

COMPANIES

JOBS

EQUIPMENT

TOOLS + KE

TRAINING

[redacted]

Candidates:

- Candidate Home
- Post Your Resume
- Search Jobs
- Edit Your Resume
- Your Career Center

- Downstream Jobs
- Students & Graduates

[redacted]

You Are Here: Jobs >> Engineer - General Job Postings >> Job Pos

[redacted]

Friend's Email:

Your

Candidate Help:

- How it Works
- FAQ

Training:

- Training Center Home
- Training Providers
- Training Events

- Training Books
- Reference Books

Recruiters:

- Recruiter Home

Rigzone Job Alert: Twice per month this email notifies you of the latest job openings posted by leaders in the oil & gas industry.

Subscribe Today: Your Email Here

Subscribe

Your email is safe with us.
Read our privacy policy

[redacted]

Your Email:

Subject: Project Services Lead - Houston, TX - Job Openin

Desired I
Ex
E

Date

Job Des

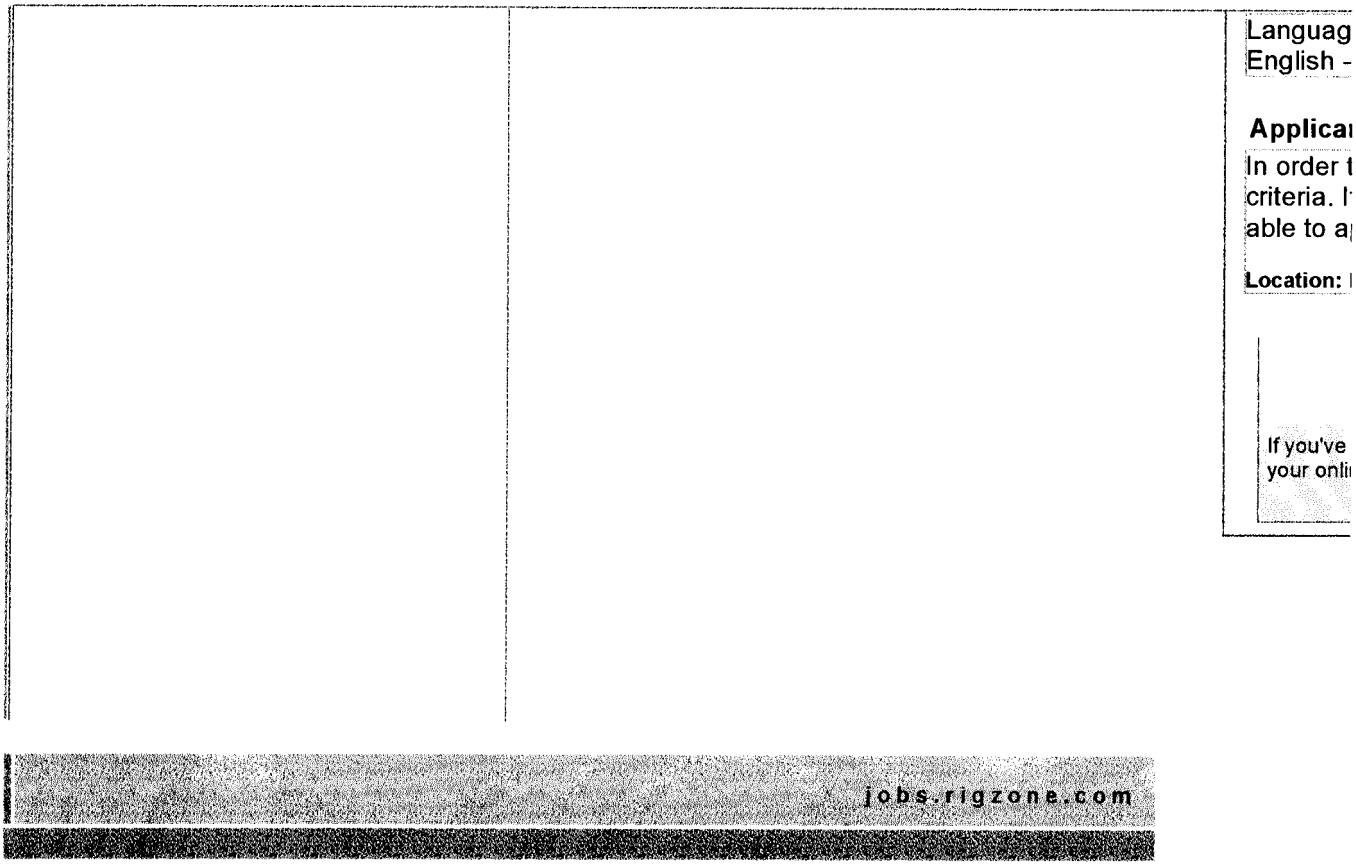
MAJOR
Gulf of M
medical,

Project S
Location:
Duration:
Rotation:
Start Dat
Rate: To

Based in
of Projec
located i
the Proje
Project S
Engineer
Delivery
relationsl
proactive
to lead th
and Orga

Experien
A minimu
+ project
experien

Educatio
Engineer


Languag
English -
Applica
In order t
criteria. I
able to a
Location:
If you've
your onli
jobs.rigzone.com

Candidates:

- Candidate Home
- Post Your Resume
- Search Jobs
- Edit Your Resume
- Your Career Center

- Downstream Jobs
- Students & Graduates

Candidate Help:

- How it Works
- FAQ

Training:

- Training Center Home
- Training Providers
- Training Events

- Training Books
- Reference Books

Recruiters:

- Recruiter Home

Rigzone Job Alert: Twice per month this email notifies you of the latest job openings posted by leaders in the oil & gas industry.
Subscribe

You Are Here: Jobs >> Engineer - General Job Postings >> Job Po

Friend's Email:

Your Email:

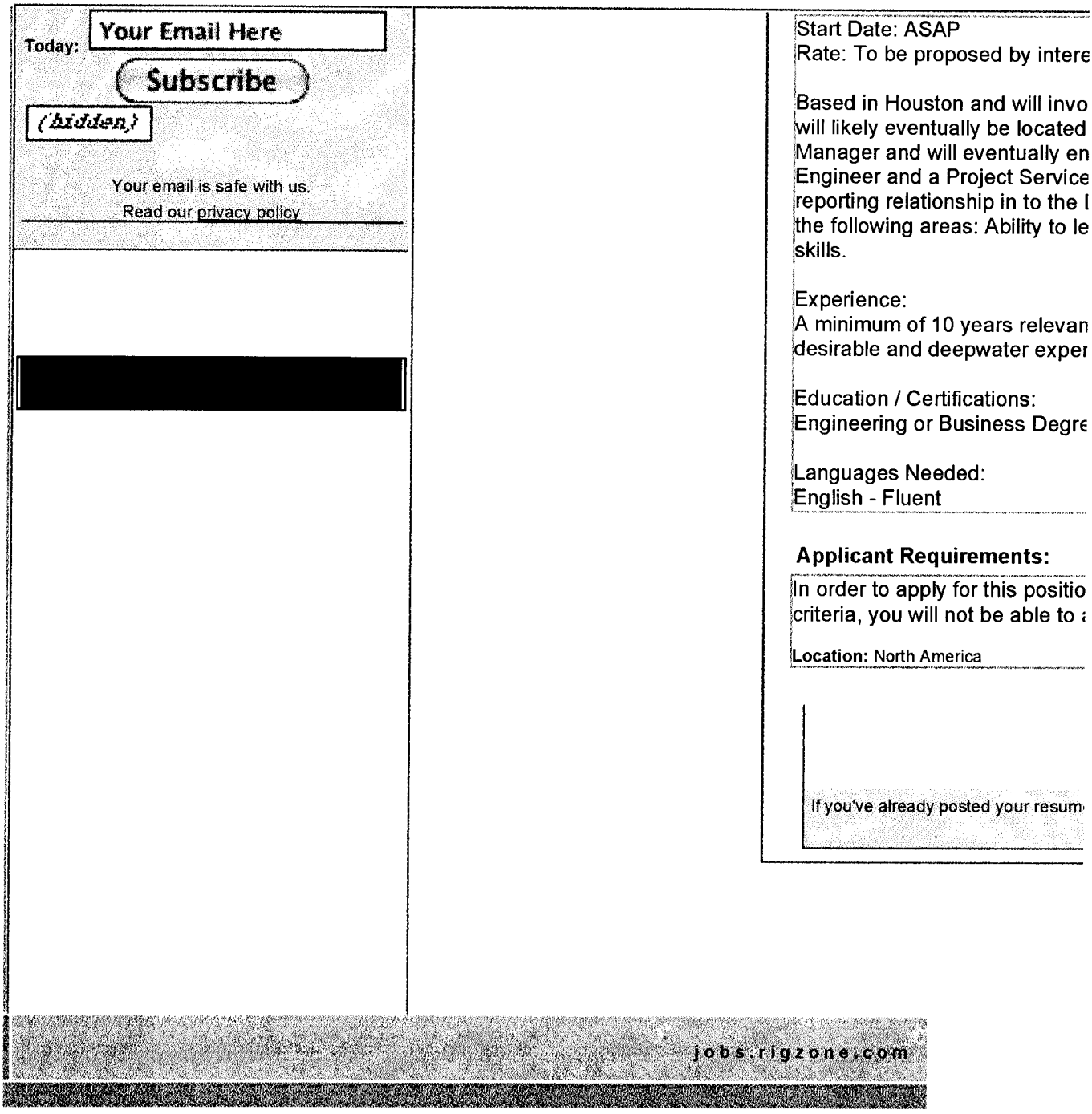
Subject: Project Services Lead - Houston, TX - Job Open

Employer: S
Desired Expertise: E
Experience: 1
Education: E
Salary: T
Location: H
Date Updated: 1

Job Description:

MAJOR operator seeking Proje
will be provided with FREE me

Project Services Lead
Location: Houston, TX
Duration: 2 years +
Rotation: 9/80 schedule


Today:
Your Email Here
Subscribe
(hidden)
Your email is safe with us.
Read our privacy policy
Start Date: ASAP
Rate: To be proposed by intere
Based in Houston and will invo
will likely eventually be located
Manager and will eventually en
Engineer and a Project Service
reporting relationship in to the I
the following areas: Ability to le
skills.
Experience:
A minimum of 10 years relevan
desirable and deepwater exper
Education / Certifications:
Engineering or Business Degre
Languages Needed:
English - Fluent
Applicant Requirements:
In order to apply for this positio
criteria, you will not be able to
Location: North America
If you've already posted your resum
jobs.rigzone.com

From: Kenneth Abbott [kwabbott@comcast.net]
Sent: Sunday, July 06, 2008 7:16 PM
To: 'Lori Rektorik'
Subject: RE: Job Opportunity

Lori I am primarily looking for permanent positions in Houston only but will consider contract in Houston depending on the rate and duration(2 years)...

From: Lori Rektorik [mailto:lrektorik@swift-houston.com]
Sent: Sunday, July 06, 2008 6:28 PM
To: kwabbott@comcast.net
Subject: Job Opportunity

Kenneth,

Thank you for your interest in the Scheduler position I am currently recruiting for. I think your experience looks great and I would love to get your information over to our clients ASAP. We actually have several opportunities available in Planning/Scheduling and Cost, so we might be able to get your information over for several different opportunities.

I have listed a few of the opportunities below for your review:

Position 1:

Location: Houston, TX and then possibly Pascagoula, MS

Client: Chevron

Project: Pascagoula Refinery Expansion Project

Position:	Planner/Scheduler
Rate:	To be proposed by candidate ñ day rate
Rotation:	9/80
Duration:	Long term (2-4 years)
Start Date:	Immediately

Chevron is looking for someone with extensive experience in planning/ scheduling, who has taken on leadership roles, particularly over several projects at one time. The Lead Scheduler will plan and schedule major refinery projects and interface with other projects in the Pascagoula, MS refinery. Extensive Primavera experience is a must (P5 or P6 preferred), and a strong construction background is preferred. This position will start in the Houston area and then possibly move to Pascagoula, MS.

Position 2:

Location:	Angola
Client:	Chevron
Project:	Angola LNG
Position:	Senior Planner/Scheduler
Rate: 15% Angolan tax)	To be proposed by candidate (considering
Rotation:	28:28 rotation
Duration:	Long term (3-4 years)
Start Date:	ASAP

Duties include:

-Manage planning and scheduling systems for large complex projects
-Design and implement progress and schedule control system for project
-Develop reporting methods and generate reports on regular basis
-Supervise assigned project controls personnel

Position 3:

Location: Houston, TX

Client: BP

Project: Thunderhorse

Position: Senior Planner/Scheduler

Rate: To be proposed by candidate

Rotation: 9/80

Duration: Long term (1-1.5 years)

Start Date: ASAP

We donít have a job description for this role yet, however they let us know they are looking for a Project Controls guy with extensive experience in Planning/Scheduling. They are looking for someone with Shutdown experience as well.

Position 4:

Location: Prudhoe Bay, Alaska

Client: BP

Project: Greater Prudhoe Bay SPU

Position: Sr Integrated Facility Scheduler

Rate: To be proposed by candidate ñ day rate for every day worked

Rotation: 1 week:1 week or 2 weeks:2 weeks

Duration: Long term (1+ years)

Start Date: ASAP

I have attached the provided job description for your review.

Please send me an updated copy of your resume at your earliest convenience. Please also advise on your availability and a desired day rate. I look forward to your reply.

Kind regards,

Lori Rektorik

Recruitment Consultant

Swift Technical Services LLC

Main: +1 713 328 4560

Direct: +1 713 579 0309

Cell: +1 832 495 1705

Fax: +1 713 328 4561

www.swiftoilandgas.com

This message is intended only for the stated addressee(s) and may be confidential. Access to this email by anyone else is unauthorised. Any opinions expressed in this email do not necessarily reflect the opinions of

Swift Technical Group Limited, its subsidiary or associated companies. Any unauthorised disclosure, use or dissemination, either whole or in part is prohibited. If you are not the intended recipient of this message, please notify the sender immediately.

Exhibit "D" to Declaration of David L. Perry (Part 2 of 2)

PDF printouts of E-mails 1-61, with attachments, if applicable, from file titled: "government disclosure e-mail files.pst" on CD Exhibit "C"

E-mail 1 of 61

Unknown

From: Kerri Walsh [kwalsh@swift-houston.com]
Sent: Monday, July 21, 2008 5:23 PM
To: 'Kenneth Abbott'
Cc: 'Lori Rektorik'
Subject: Offer Letter
Attachments: 20080721182013725.pdf

Hi Ken,

Congratulations!

Per our conversation this afternoon, please find attached the Offer Letter for employment through Swift, seconded to BP America Production Company.

Let me know if you have any questions. Again, you can reach me at any time if you have questions or concerns. Otherwise, I'll touch base with you later this week, just to check in. We'll plan to meet at our office next week to review and sign contract and all other documents needed.

Take care!!

Kerri Walsh
Business Development Manager
Swift Technical LLC
Main Tel: +1 713 328 4560
Direct Line: +1 713 328 4564
Cell: +1 832 788 2746
Fax: +1 713 328 4561
http://www.swiftoilandgas.com

This message is intended only for the stated addressee(s) and may be confidential. Access to this email by anyone else is unauthorized. Any opinions expressed in this email do not necessarily reflect the opinions of Swift Technical Group Limited, its subsidiary or associated companies.
Any unauthorized disclosure, use or dissemination, either whole or in part is prohibited. If you are not the intended recipient of this message, please notify the sender immediately.

swift
technical services LLC

July 21, 2008

Dear Mr. Kenneth Abbott,

SUBJECT: CONTRACT WITH SWIFT TECHNICAL SERVICES LLC.

Please accept this notice as our intention to contract your services with our client BP America Production Company – Atlantis, as follows:

Position:	Subsea Project Services Leader
Project Name:	Atlantis
Reporting To:	Mr. Bill Naseman
Start Date:	18th August, 2008
Completion Date:	18th August, 2010
Hourly rate of pay:	$900.00/day worked
Benefits:	Medical, Dental, Vision, Long Term Disability, Life/AD&D (all covered by Swift), Voluntary package, 401(k) matched dollar for dollar up to 5%. All benefits starting on 1st September, 2008.
Payment Schedule:	Bi-Weekly
Location(s):	Houston/Gulf of Mexico
Schedule:	9/80 schedule

Should you require any further details please do not hesitate to contact Kerri Walsh at + 1 (713) 328-4564. Our working hours are Mon. thru Thurs. 7:30am – 5:30pm & Fri 8am-12 noon. After hours, Kerri can be reached on her cell phone at + 1 (832) 788-2746.

Thank you,

Kerri Walsh
Business Development Manager - BP
Swift Technical Services LLC

3050 Post Oak, Suite 1450, Houston, Texas, TX 77056

t: +1 713 328 4560 f: +1 713 328 4561 e: kwalsh@swift-houston.com
www.swiftoilandgas.com

E-mail 2 of 61

Unknown

From: Kerri Walsh [kwalsh@swift-houston.com]
Sent: Tuesday, July 22, 2008 3:41 PM
To: 'Kenneth Abbott'
Subject: Contract

Hey Ken,

Good news – I already received the paperwork from BP and we've got your contract ready! Turns out things happened much quicker than I expected, so its ready to go! If you want to come in this week, that's great and fine with me. If you want to wait until next week, that's fine too. Just letting you know its ready.

Call or email and let me know what you think.

Take care.

Kerri Walsh
Business Development Manager
Swift Technical LLC
Main Tel: +1 713 328 4560
Direct Line: +1 713 328 4564
Cell: +1 832 788 2746
Fax: +1 713 328 4561
http://www.swiftoilandgas.com

This message is intended only for the stated addressee(s) and may be confidential. Access to this email by anyone else is unauthorized. Any opinions expressed in this email do not necessarily reflect the opinions of Swift Technical Group Limited, its subsidiary or associated companies.
Any unauthorized disclosure, use or dissemination, either whole or in part is prohibited. If you are not the intended recipient of this message, please notify the sender immediately.

E-mail 3 of 61

Unknown

From: Duff, Barry C [Barry.Duff@bp.com]
Sent: Saturday, August 30, 2008 2:13 PM
To: Naseman, Bill E
Cc: william.broman@bp.com; Smit, Dirk; Abbott, Ken (SWIFT); Ken Abbott (Home)
Subject: RE: Progress Report - ATL Subsea Document Control
Attachments: Documentum Issues and Recommendations.doc; Atlantis Subsea Close-Out Identified Issues and Recommendations.doc; Atlantis Subsea Close-Out Identified Issues n Recommendations.doc; Atlantis Subsea Document Control Training Presentation.doc; Document Number Guidelines 1440-AD-PR-0212 and Other Procedure and Practice Issues.doc; Document Number Scheme.doc; Proposed Change to Document Numbering Guide.doc; Project Close out for Subsea.doc; Project Closeoutds.doc

Bill,

Since Andy and Mike Garland have come to you with there concerns, (they have not raised any of these concerns to me), regarding the proposed new number scheme for Subsea, I thought you should have some additional background on all the work that has gone into this effort.

I have spent considerable effort in trying to resolve the problems with Subsea's Document Control System. I raised these issues and was under the impression that Dirk had the lead in working the problem, (see attached e-mails).

I developed a plan, met with Dirk and Bill Broman and received their endorsement. Met several times with Andy, Mike, (received both verbal and e-mail endorsements), and Tinikka to workout the details, rolled out the plan to the Subsea Team and received their endorsement.

All in all, this has been a 4 months effort.

<<Documentum Issues and Recommendations.doc>> <<Atlantis Subsea Close-Out Identified Issues and Recommendations.doc>> <<Atlantis Subsea Close-Out Identified Issues n Recommendations.doc>> <<Atlantis Subsea Document Control Training Presentation.doc>> <<Document Number Guidelines 1440-AD-PR-0212 and Other Procedure and Practice Issues.doc>> <<Document Number Scheme.doc>> <<Proposed Change to Document Numbering Guide.doc>> <<Project Close out for Subsea.doc>> <<Project Closeoutds.doc>>

From: Gregg, Andrew (Gregg Valdes & Assoc)
Sent: Thursday, August 14, 2008 5:21 PM
To: Duff, Barry C; Garland, Mike L
Cc: Naseman, Bill E
Subject: RE: Progress Report - ATL Subsea Document Control

Barry,

When we met with the Atlantis team on July 1st, we agreed to review and socialize your draft proposal of the procedure. To date we have disucussed it (in its hard copy form) with Thunder Horse, who have pointed out some discrepancies with what they are doing, and with Dave Turner in Subsea Ops.

Our impression from your presentation was that the Project had not bought into this for existing work, only

future work. We also discussed that, if the cost implications were excessive (your estimate was $2M?), we could provide an alterative to re-numbering by using attributes for the documents, which is something that really would have to happen anyway before anything could be re-numbered.

Mike Garland met with Bill Naseman today and Bill has requested further socialization with the next suite of Projects. Bill does not wish to change,

1. a shared program document which would now be specific to Atlantis and 2. to create a one off approach.

Bill has requested that Mike meets with the other Subsea teams next week to discuss further.

Whatever the eventual plan we need to figure out the most cost effective way to proceed, attributes versus re-numbering.

As an aside, Dave Turner reminded me that the critical issue during hurricane season is to have easily available, a set of documents for the installed SS1 equipment.

Regards
Andy

From: Duff, Barry C
Sent: Wednesday, August 13, 2008 3:03 PM
To: Garland, Mike L; Gregg, Andrew (Gregg Valdes & Assoc)
Subject: RE: Progress Report - ATL Subsea Document Control

Mike/Andy,

Where are you on updating the procedure? Its been a couple of months and several meetings on this and there is still no resolution.

From: Curtis, Tinikka (NES)
Sent: Tuesday, August 12, 2008 11:05 AM
To: Duff, Barry C
Cc: Garland, Mike L; Gregg, Andrew (Gregg Valdes & Assoc)
Subject: Progress Report - ATL Subsea Document Control

Good Morning,

I thought it would be a good idea for me to send a quick progress report of where we are on things with Atlantis Subsea Document Control.

There are (2) main action items:

Document Numbering

- **Format of the Technical document number**

1 **Sector recommendations**
2 **Incorporating the changes within Documentum – Folder structure/ attributes**
3 **Process for changing existing document numbers to the new document number format**

I feel the subjects listed above breakdown the steps we need to take before we can truly implement a new document numbering scheme.

I am working on taking all existing notes, spreadsheets, etc. and merging them into 4 spreadsheets by the subject listed above.

Each subject will have a separate spreadsheet, (sheet 1 - will draw out the details) to get a visual and (sheet 2 will list all the issues in a line item format).

I will be sending an email with the four spreadsheets attached for your review/comment.
I will then schedule a meeting so that we can all meet to discuss a plan moving forward.

Daily Activities:

· ___ **Loading documents incoming documents**
1 **PI &D request from Ops**
2 **Comparing Technip system to Documentum**
3 **Issues Log – list all the documents that leads need to take action on**

The items listed above are more of the day to day activities that I execute on a regular base with the exception of focusing on P&ID's.

However I am trying a process that will allow me to work on all 3 at one time.
I am taking Technip master registry (with all revs listed) by sector merging it with the Documentum registry by sector.

The Technip attributes are in one color and documentum attributes are in another color.

Once I put the combine list in order by document number:

I can see just how much data is missing.
I can bold the P&IDs' to check the revision before sending the list to Kristy
I can see all attribute history for existing documents before loading new revisions (especially if the documents that are candidate for re-numbering or issues).

I will have a print-out to use for identifying Drill Centers, and phases when working with the leads.

Because I do not want Operations waiting, I will send Kristy a list of P&ID's by sector as soon as I complete that section.

Then I will request all missing documents from Technip by the sector and load them, along with the new documents coming in.

I will send the sector reports out as I complete them to keep all informed.

Thanks,

Tinikka Curtis
Atlantis - North Flank
Document Control
Tinikka.Curtis@bp.com
281-249-8978

From: Duff, Barry C
Sent: Thursday, June 05, 2008 11:13 AM
To: Broman, William H(HOU); Smit, Dirk
Subject: Atlantis Subsea Close-Out Identified Issues and Recommendations
Bill/Dirk,

Thanks for meeting with me today to discuss DC-1/SS-1 Project Closeout issues.

Attached is the list of issues that were discussed and my recommendations based upon my review so far.

I have not reviewed all the Subsea Sectors in detail, but believe I've captured the gist of the major issues. If any other significant issues arise, I'll let you know.

Please review the attached list and provide comments, counter recommendations, accept etc. Once these issues are resolved, we can proceed with working the details to complete the DC-1/SS-1 closeout.

Let me know if you have any questions or wish to discuss these issues in detail.

Best Regards,

Barry C. Duff
Project Services Lead

BP DW GoM Production
Atlantis Subsea Team
11700 Old Katy Road, Suite 150
Office number 4.64
Houston, Texas 77079
Office: +1 (281) 249-1510
Cell: +1 (713) 408-1933
Fax: +1 (281) 249-4323
Together, we will make Atlantis the safest, cleanest, most reliable and best performing asset!

From: Duff, Barry C
Sent: Wednesday, June 11, 2008 9:36 AM
To: Curtis, Tinikka (NES)
Subject: Atlantis Subsea Document Control Training Presentation
Tinikka,

Please take the lead in putting together a presentation per the outline in the attached presentation.

The attached presentation is something I put together a couple of jobs ago on the role of document control in an environmental management system. You may or may not find some of the text useful, but I though it was something you could build from vs. starting from scratch. I have performed some quick replacements of words and job titles to "Atlantis" the presentation, but have not performed an overall review of the applicability or context.

Also I'll send you a couple of separate e-mails with other documents you may find useful in putting the presentation together. In addition, incorporate the Issues and Recommendations I sent you yesterday.

Lets target the week of June 23rd to roll the presentation out to staff. Please arrange for the meetings to do this (include all of Bill Broman's direct reports and Willie Mae). Target 1-1/2 hours (1 hour for presentation). Tuesday afternoons are usually a good time slot for subsea meetings.

Best Regards,

Barry C. Duff
Project Services Lead

BP DW GoM Production
Atlantis Subsea Team
11700 Old Katy Road, Suite 150
Office number 4.64
Houston, Texas 77079
Office: +1 (281) 249-1510
Cell: +1 (713) 408-1933
Fax: +1 (281) 249-4323
Together, we will make Atlantis the safest, cleanest, most reliable and best performing asset!

From: Duff, Barry C
Sent: Friday, June 06, 2008 3:39 PM
To: Gregg, Andrew (Gregg Valdes & Assoc)
Subject: Document Number Guidelines 1440-AD-PR-0212 and Other Procedure and Practice Issues
Greg,

I left you a voice mail regarding this as well. Attached is a list of issues that have been identified which are imperative to be resolved to complete the DC-1/SS-1 turnover and closeout for Atlantis Subsea.

Resolving these issues will also assist us in cleaning up the remaining DC-1 and DC-3 work as well as future work.

The big issue is the one I requested your input on about a month ago regarding Atlantis Subsea being assigned Project Numbers 1441-1479. In summary this is what I am proposing:

A)ááá Make 1440 Program Level for common subsea production.
B)ááá Make 1441-1449-Production Drill Centers - 1441-DC-1; 1442-DC-2; 1443-DC-3; 1444-DC-4; etc
C)ááá Make 1450 Program Level for common water injection.
D)ááá Make 1451-1459-Water Injection Drill Centers - 1451-DC-1; 1452-DC-2; 1453-DC-3; 1454-DC-4; etc
E)ááá Make 1460 Program Level for common gas production.
F)áááá Make 1461-1469-Gas Production Drill Centers - 1465-DC-5. etc
G)ááá Make 1470 Program Level for common gas Injection.
H)ááá Make 1471-1479-Gas Injection Drill Centers - 1471-DC-1; 1472-DC-2; 1473-DC-3; 1474-DC-4; 1475-DC-5. etc

Note: SS-1 and SS-2 are to use DC-1 Project Number 1441. DC-1 Rev 0, SS-1 Rev 1 and SS-2 Rev 2. Likewise for ANF. Single Line Tie back and trees, controls, flowlines and umbilicals is Rev 0, Initial field development is Rev1, Expansion is Rev 2.

Let me know we need to set up a meeting to discuss this further.

Best Regards,

Barry C. Duff
Project Services Lead

BP DW GoM Production
Atlantis Subsea Team
11700 Old Katy Road, Suite 150
Office number 4.64
Houston, Texas 77079
Office: +1 (281) 249-1510
Cell: +1 (713) 408-1933
Fax: +1 (281) 249-4323
Together, we will make Atlantis the safest, cleanest, most reliable and best performing asset!

From: Jondle, John J
Sent: Sunday, May 11, 2008 3:59 PM
To: Duff, Barry C
Cc: Malone, Ryan P
Subject: RE: Document Number Scheme
Are you proposing this by Drill Center or Project? i.e. would North Flank ANF Man 5 at DC-1 be DC-1 or DC-3?

Otherwise, without researching any unintended consequences, I don't see any major issues.

From: Duff, Barry C
Sent: Tuesday, May 06, 2008 3:50 PM
To: Jondle, John J; Malone, Ryan P
Subject: Document Number Scheme

John/Ryan,

We are struggling with the established document number scheme as defined in document 1400-AD-PR-0212, "BP Gulf of Mexico Deepwater Development Document Numbering Guide", (copy attached).

The primary issue is that for Atlantis, the Numbering Guide, is set up to put all Subsea documents under the same number scheme. Currently Atlantis has six (6) Drill Site Developments planned over the Field life, namely:

DC-1 (Original)
SS-1 Phase I Manifolds
SS-2 Phase II Manifolds
DC-3 (aka North Flank)
DC-2
DC-5.

There are also planned expansions at DC-1 and DC-3.

As we try to close out individual projects, the current number scheme makes this task extremely difficult in that we do not know unless the document is opened and reviewed whether it is for DC-1, SS-1, SS-2 or DC-3.

The current number scheme has a sequence gap of 40 between Atlantis (1440) and Mardi Gras (1480). I am proposing to modify the Project number scheme as follows:

Project	Project Number	Comments
DC-1 (Original)	1440	No change. This minimizes the number of documents that need to be revised
SS-1 Phase I Manifolds		No change. SS-1 Manifolds would be part of DC-1.
SS-2 Phase II Manifolds		No change. SS-2 Manifolds would be part of DC-1.
DC-3 (aka North Flank)	1445	
DC-2	1450	
DC-5	1455	No change. New Manifolds would be part of DC-1.

DC-1 Expansion would be part of DC-1.		No change. New Manifolds
DC-3 Expansion would be part of DC-3.		No change. New Manifolds
Future Expansion Atlantis Subsea.	1460	Would be reserved for
Future Expansion Atlantis Subsea.	1465	Would be reserved for
Future Expansion Atlantis Subsea.	1470	Would be reserved for
Future Expansion Atlantis Subsea.	1475	Would be reserved for

Does this make sense to you? Alternatively, we can assign a unique project number to SS-1 and SS-2. Another consideration is water injection and whether or not a separate project number is needed.

I would appreciate your feed back to assist in the project closeout efforts (primarily for DC-1/SS-1, but this also affects flowlines and umbilicals for DC-3). If you approve the change, I will work with the owners of the 1400-AD-PR-0212, "BP Gulf of Mexico Deepwater Development Document Numbering Guide", to make the change.

Best Regards,

Barry C. Duff
Project Services Lead

BP DW GoM Production
Atlantis Subsea Team
11700 Old Katy Road, Suite 150
Office number 4.64
Houston, Texas 77079
Office: +1 (281) 249-1510
Cell: +1 (713) 408-1933
Fax: +1 (281) 249-4323
Together, we will make Atlantis the safest, cleanest, most reliable and best performing asset!
<< File: 1400-10-AD-PR-0212.pdf >>

Dirk/Bill,

I've assembled an Excel Workbook with all the Atlantis Subsea documents in Documentum.

I've also reviewed the BP Document Numbering Procedures, (1400-10-AD-PR-0212 and 1440-10-AD-PR-0003) as well as the Technip Requirements for Technical Documents (TOI-AT-EN-0001, Rev 3).

Listed below are the issues identified and the recommendations:

Document Numbering Procedures (1400-10-AD-PR-0212)

1) The current number scheme does not accommodate multiple Drill Centers. The result is DC-1 and DC-3 is utilizing the same number scheme. I'm proposing the following:

   A) Make 1440 Program Level for common subsea production.

   B) Make 1441-1449-Production Drill Centers - 1441-DC-1; 1442-DC-2; 1443-DC-3; 1444-DC-4; etc

   C) Make 1450 Program Level for common water injection.

   D) Make 1451-1459-Water Injection Drill Centers - 1451-DC-1; 1452-DC-2; 1453-DC-3; 1454-DC-4; etc

   E) Make 1460 Program Level for common gas production.

   F) Make 1461-1469-Gas Production Drill Centers - 1461-DC-1; 1462-DC-2; 1463-DC-3; 1464-DC-4; 1465-DC-5. etc

   G) Make 1470 Program Level for common gas Injection.

   H) Make 1471-1479-Gas Injection Drill Centers - 1471-DC-1; 1472-DC-2; 1473-DC-3; 1474-DC-4; 1475-DC-5. etc

Note: SS-1 and SS-2 are to use DC-1 Project Number. DC-1 Rev 0, SS-1 Rev 1 and SS-2 Rev 2. Likewise for ANF. Phase I is Rev 0. Expansion is Rev 1.

2) Each Drill Center must have their own version of a document unless it's at the program level.

3) Vendor Documents (e.g., FMC) have been entered into our system directly. Recommend creating our own version and/or including in Vendor in data books.

Document Numbering Procedures (1400-10-AD-PR-0212) cont.:

4) A procedure needs to be developed for DSPs. Recommend DSPs only be developed pre-Statement of Requirements, (SOR) and Design Basis, (DB). The DSPs will become part of (either through text or as an appendix/attachment to the applicable SOR or DB. Future DSPs are administered through the MOC process.

5) Make Discipline Identifier MN-Manifolds, MN-ManTIS and PC-Project Controls, PS-Project Services, HS-Health and Safety, HSSE-Health, Safety, Security and Environmental (includes Regulatory). CO-Construction, CO-Construction and Fabrication.

6) Under Sector Identifier. Change 40-Subsurface to 40-Drilling and Completion

7) Document Type Identifiers. Weld procedures and identified by both PR-Procedure and SP-Specification. Standardize on PR-Procedure.

8) Only REV 0, IFA, IFD, IFC and ASB go into Documentum. Drafts do not.

9) Flexjoints and Coil tubing are not specifically identified in the Document Numbering Procedure. I'm proposing that they be included in 37-Risers. Move all Diverter Block to 44- Production Riser Tensioning System. Change description to 44- Production Riser Tensioning and Diverter System.

Document Numbering Procedures (1400-10-AD-PR-0212) cont.:

10) Should we be using Discipline Identifiers (e.g., ME-Mechanical, EL-Electrical etc) vs. the following that are provided?

DISCIPLINE	IDENTIFIER	DISCIPLINE	IDENTIFIER
Project Management		Installation	
Administration	AD	Installation General	IG
Project Controls	PC	Installation	HO
Financial	FN	Organization	HI
Assurance	AS	Installation	MS
Interface	IF	Marine Surveyor	CV
Information Mgmt	IM	Certified Verification	
Project Management	PM	Agent	HE
		Installation Equipment	SK
Engineering		Installation Sketch	CT
General	GE	Contractual	MT
Process	PR	Met-Ocean	DP
Mechanical	ME	Dynamic Positioning	TU
ctural	ST	Tugs, Work Boats,	BA
Architectural	AR	AHTS	RO
Electrical	EL	Barges	SU
Inst. & Controls	IC	ROV's	BL
Fire & Gas	FG	Survey	
Communications	CM	Ballast	
Marine Engineering	MA		EV
Naval Architecture	NA	Environmental/Regulatory	RG
Piping	PI		
Hull	HL	Environmental	AN
Drilling Systems	DR	Regulatory	PL
Corrosion & Paint	CP		RI
		Accommodations	SB
Construction	CO	Pipeline	FL
Hook-Up & Commissioning	HU	Risers	MN
		Subsea	MO
Facilities Operations	OP	Flowlines	MR
Drilling Operations	DO	Manifolds	MU
		Marine Outfitting	SY
Health & Safety	HS	Mooring	HY
		Machinery/Utilities	HV
Purchasing	PU	Stability	WT
Quality	QA	Hydrodynamics	
		HVAC	
		Weight	

Document Numbering Procedures (1400-10-AD-PR-0212) cont.:

11) For example, there is Sector 32-Trees, but all the Discipline IDs are ME-Mechanical or SB-Subsea. Likewise Sector 35-Controls, but Discipline IDs are all SB-Subsea vs. IC-Instrument and Controls. Manifolds are split with MN and ME, ST etc.

30-Subsea Well Systems (General) Sector Report (also relates to both procedures above)

1) The Sector 30-Subsea Well System (General) has 1,491 documents. Sector 30 (and General) should be limited to documents that are applicable to all of the Subsea Sector.

2) Move Chain Jack to Sector 20-Topsides.

3) Jumpers are assigned to several Sectors. Consolidate all to Sector 39-Flexibles and re-title "Jumpers". Sector 39 is currently not used. Alternatively move to 34-Pipelines and Flowlines.

4) Flowline and Riser Assurance documents are under this Sector. Move to 34-Pipelines and Flowlines or 37-Riser as applicable.

5) Umbilical Assurance documents are under this Sector. Move to 36-Umbilicals.

6) All GOC move to applicable Sectors.

7) Manifold, PLET and PLEM Header Tests. File under 33-Manifolds or 34-Pipelines and Flowlines.

8) IWOCs documents are under this Sector. Move to 60-Drilling Rig.

9) Move PLETs to 34-Pipelines and Flowlines? Or 33-Manifolds?

10) All QA/QC move to applicable Sectors.

11) Move all Diverter Block to 44- Production Riser Tensioning System. Change description to 44- Production Riser Tensioning and Diverter System.

12) Move HWHR to 34-Pipelines/Flowlines or 39-Jumpers?

13) Change Sector from 33-Manifold to 33-Manifold, PLEMs and PLETs (unless PLETs are combined with 34-Pipelines and Flowlines).

14)

Document Numbering Procedures (1440-10-AD-PR-0003) cont.:

31-Wellhead Sector Report (also relates to both procedures above)

1) The Sector 31 has 32 documents. Currently being used as the repository for Well Specific Handover Packages. Primary Discipline ID is HU-Hookup and Commissioning. Need to investigate this further.

32-Trees Sector Report (also relates to both procedures above)

1) The Sector 32 has 574 documents. Primary Discipline ID is ME-Mechanical and OP-Facility Operations. Need to investigate this further, (see comment above).

33-Manifold Sector Report (also relates to both procedures above)

1) The Sector 33 has 256 documents. Primary Discipline ID is MN-Manifold Need to investigate this further, (see comment above).

2) Inconsistencies in the use of Rev 0 vs. IFD or IFC. Design related documents should all be IFD in their final form. Fabrication or Construction related documents should have IFC in their final form. Program level documents not related to design, fabrication or Construction should have Rev 0, (e.g., 1, 2, 3, etc) in their final form.

3) Use of Superseded vs. IFV (VOID). IFV should be the standard, but it is not in the procedure.

4) Jumpers are mixed in with 33-Manifolds. Change 33-Manifolds to 33-ManTIS? Prefer to change 39-Flexibles to 39-Flexibles and Ridged Jumpers.

5) Several Status Codes on the attached report are not in the procedure (e.g., AFC, PRE, FIR, FRA, RAN, "A", IFQ, Issued for Use? IFI? What are these? Why is not the procedure codes used?

6) Inconsistencies in the use of Specification and Procedure. The main area this is inconsistent is for Weld procedures. For manufacturing it is a specification. For construction or fabrication it is a procedure.

34-Pipelines and Flowlines Sector Report (also relates to both procedures above)

1) The Sector 34 has 2,587 documents. Primary Discipline IDs are PL-Pipelines and FL-Flowlines. Need to investigate this further, (see comment above).

Document Numbering Procedures (1440-10-AD-PR-0003) cont.:

35-Controls Sector Report (also relates to both procedures above)

1) The Sector 35 has 1,417 documents. Primary Discipline ID is SB-Subsea. Need to investigate this further, (see comment above).

36-Umbilicals Sector Report (also relates to both procedures above)

1) The Sector 36 has 541 documents. Primary Discipline ID is SB-Subsea. Need to investigate this further, (see comment above).

37-Risers Sector Report (also relates to both procedures above)

1) The Sector 37 has 760 documents. Primary Discipline ID is RI-Risers. Need to investigate this further, (see comment above).

38-Installation Sector Report (also relates to both procedures above)

1) The Sector 38 has 438 documents. Multiple Discipline IDs used. Need to investigate this further, (see comment above).

40-Subsurface Well Systems (General) Sector Report (also relates to both procedures above)

1) The Sector 40 has 4 documents. IF-Interface and PM-Project Management Discipline IDs used. Need to investigate this further, (see comment above).

43-Risers Sector Report (also relates to both procedures above)

1) The Sector 43 has 4 documents. Consolidate with Sector 37-Risers above.

44-Production Riser Tensioning System Sector Report (also relates to both procedures above)

1) The Sector 44 has 56 documents. . RI-Riser and SB-Subsea Discipline IDs used. Consolidate with Sector 37-Risers above?

46-Wellbay Sector Report (also relates to both procedures above)

1) The Sector 46 has 4 documents. Consolidate with other Sectors above.

47-Risers Sector Report (also relates to both procedures above)

1) The Sector 47 has 2 documents. Consolidate with Sector 38-Installation above.

49-Shipping and Receiving Sector Report (also relates to both procedures above)

1) The Sector 49 has 17 documents. Consolidate with Sector 38-Installation above.

Document Numbering Procedures (1440-10-AD-PR-0003) cont.:

50-Floating Systems Sector Report (also relates to both procedures above)

1) The Sector 50 has 3 documents. Duplicate of Topsides.

60-Drilling Rig Sector Report (also relates to both procedures above)

1) The Sector 60 has 2 documents.

Document Numbering Procedures (1440-10-AD-PR-0003)

1) There are 26 Status Codes currently being used. Need to simplify to 10. This procedure needs to be incorporated into the 1400-AD-PR-0212. The codes should be the same for all GoM assets.

2) Status Code CA is two characters, all others have three characters. Make ICA? It is not in the Procedure but is used on the attached Manifold Sector Report.

From: Naseman, Bill E
Sent: Friday, April 25, 2008 2:18 PM
To: Broman, William H(HOU)
Cc: Duff, Barry C
Subject: Project Close out for Subsea

Bill -

During our discussion of project close out today at my staff meeting, Barry brought up several issues related to the subsea project close out work. The issues were far reaching and I think honestly portray where we are (or maybe better said where we aren't) as it relates to the subsea close out. I appreciate Barry's openness about this situation and agree with his points about what should have been done by whom by when, but I also recognize that we are where we are and can't change the past.

I've had a chance to sit down with Dirk and discuss this a little and I have secured Dirks commitment to help out here to develop the content of the subsea close out. Dirk has agreed to assist the two of you in developing this during the week of May 5. He has also agreed to help raise the priority with the team leads if required. Some key points on this-

We aren't going to have everything that we'd want if we were to do this whole project again, but we need to capture and organize what we have.

We shouldn't spend a great deal of time going back and trying to re-create things that we don't have. There are certainly lessons to be learned on this front.

If we need to bring in some resources on the project services side to help out in coordinating this, we need to identify what we need and for how long. I will handle approvals for this with Simon.

Bill Naseman
Project Services Manager
Atlantis
Office: 281-366-6936
Cell: 832-257-6927
Bill.Naseman@bp.com

From: Smit, Dirk
Sent: Wednesday, April 30, 2008 7:31 AM
To: Broman, William H(HOU); Duff, Barry C
Subject: RE: Project Closeout
Great

I'll see what next week looks like and set up something up with you folks to pull together a plan.

Thx
ds

From: Broman, William H(HOU)
Sent: Tuesday, April 29, 2008 9:53 PM
To: Smit, Dirk; Duff, Barry C
Subject: RE: Project Closeout

Thx Dirk, as we discussed I would appreciate any guidance you may have to offer on making this fit for purpose and on a schedule that works for my team.

I have gotten some questions about how we are closing out a project that is not done yet for Subsea, so that is a good point for us to sort out (DC1 SS1 is still going and we would assume that SS2 is just held out separately).

Bill Broman
Atlantis Subsea Delivery Manager
GOM Deepwater
281-249-1337 office
william.broman@bp.com

From: Smit, Dirk
Sent: Monday, April 28, 2008 6:37 AM
To: Broman, William H(HOU); Duff, Barry C
Subject: Project Closeout

Bill/Barry

Had a brief conversation with BillNaseman on Friday re SS project closeout.

I have an offer for you folks. I'm hooked up this week, but next week, I'd be happy to come and meet with you to talk about an project closeout.

My approach is very simplistic, but complies with BP MpCp and our vendor data/knowledge mgmt requirements.

I'd be happy to meet with you folks and participate in putting together a fit for purpose plan that will give your team clear directions on what needs to be done.

Thx
ds

From: Gregg, Andrew (Gregg Valdes & Assoc)
Sent: Tuesday, May 06, 2008 4:55 PM
To: Duff, Barry C
Cc: Garland, Mike L; Curtis, Tinikka (NES)
Subject: RE: Proposed Change to Document Numbering Guide
Barry,

Tinikka and Mike have kept me advised on the background of the established document numbering issues, and the intent for DC-3, so I follow the logic of your proposal.

My initial thought is that using the Project numbering as you have outlined would appear to be very simple and workable, and still retains options of how best to organise the folder structure within Atlantis.

However, I would like to talk this through in detail with Tinikka/Mike to ensure we have thought of the implications, and provide you with feedback.

Regards
Andy

From: Duff, Barry C
Sent: Tuesday, May 06, 2008 3:58 PM
To: Gregg, Andrew (Gregg Valdes & Assoc)
Cc: Garland, Mike L; Curtis, Tinikka (NES)
Subject: Proposed Change to Document Numbering Guide

Hi Andy,

We are struggling with the established document number scheme as defined in document 1400-AD-PR-0212, "BP Gulf of Mexico Deepwater Development Document Numbering Guide", (copy attached).

ISSUE
The primary issue is that for Atlantis, the Numbering Guide, is set up to put all Subsea documents under the same number scheme, (i.e., Project 1440, Sector 30). Currently Atlantis has six (6) Drill Site Projects either underway or planned over the Field life, namely:

DC-1 (Original)
SS-1 Phase I Manifolds
SS-2 Phase II Manifolds
DC-3 (aka North Flank)
DC-2
DC-5.

There are also planned future expansions at DC-1 and DC-3.

As we try to close out individual projects, the current number scheme makes this task extremely difficult in that we do not know unless the document is opened and reviewed whether it is for DC-1, SS-1, SS-2 or DC-3.

PROPOSAL

The current number scheme has a sequence gap of 40 between Atlantis (1440) and Mardi Gras (1480). I am proposing to modify the Project number scheme as follows:

Project	Project Number	Comments
DC-1 (Original)	1440	No change. This minimizes the number of documents that need to be revised
SS-1 Phase I Manifolds		No change. SS-1 Manifolds would be part of DC-1.
SS-2 Phase II Manifolds		No change. SS-2 Manifolds would be part of DC-1.
DC-3 (aka North Flank)	1445	
DC-2	1450	
DC-5	1455	
DC-1 Expansion		No change. New Manifolds would be part of DC-1.
DC-3 Expansion		No change. New Manifolds would be part of DC-3.
Future Expansion	1460	Would be reserved for Atlantis Subsea.
Future Expansion	1465	Would be reserved for Atlantis Subsea.
Future Expansion	1470	Would be reserved for Atlantis Subsea.
Future Expansion	1475	Would be reserved for Atlantis Subsea.

I would appreciate your feed back to assist in the project closeout efforts (primarily for DC-1/SS-1, but this also affects flowlines and umbilicals for DC-3).

I am assuming you are the owner of 1400-AD-PR-0212, "BP Gulf of Mexico Deepwater Development Document Numbering Guide" and would facilitate making the change. Once approved, I can work with the subsea contractors to change their contracts and procedures.

Best Regards,

Barry C. Duff
Project Services Lead

BP DW GoM Production
Atlantis Subsea Team
11700 Old Katy Road, Suite 150
Office number 4.64
Houston, Texas 77079
Office: +1 (281) 249-1510
Cell: +1 (713) 408-1933
Fax: +1 (281) 249-4323
Together, we will make Atlantis the safest, cleanest, most reliable and best performing asset!

<< File: 1400-10-AD-PR-0212.pdf >>

E-mail 4 of 61

Unknown

From: Duff, Barry C
Sent: Saturday, August 30, 2008 2:13 PM
To: Naseman, Bill E
Cc: Broman, William H(HOU); Smit, Dirk; Abbott, Ken (SWIFT TECHNICAL SERVICES); Ken Abbott (Home)
Subject: RE: Progress Report - ATL Subsea Document Control

Attachments: Documentum Issues and Recommendations.doc; Atlantis Subsea Close-Out Identified Issues and Recommendations.doc; Atlantis Subsea Close-Out Identified Issues n Recommendations.doc; Atlantis Subsea Document Control Training Presentation.doc; Document Number Guidelines 1440-AD-PR-0212 and Other Procedure and Practice Issues.doc; Document Number Scheme.doc; Proposed Change to Document Numbering Guide.doc; Project Close out for Subsea.doc; Project Closeoutds.doc

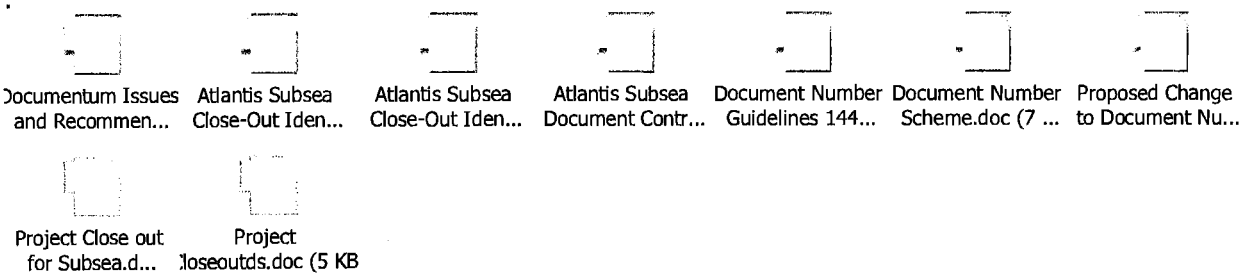
Bill,

Since Andy and Mike Garland have come to you with there concerns, (they have not raised any of these concerns to me), regarding the proposed new number scheme for Subsea, I thought you should have some additional background on all the work that has gone into this effort.

I have spent considerable effort in trying to resolve the problems with Subsea's Document Control System. I raised these issues and was under the impression that Dirk had the lead in working the problem, (see attached e-mails).

I developed a plan, met with Dirk and Bill Broman and received their endorsement. Met several times with Andy, Mike, (received both verbal and e-mail endorsements), and Tinikka to workout the details, rolled out the plan to the Subsea Team and received their endorsement.

All in all, this has been a 4 months effort.



From: Gregg, Andrew (Gregg Valdes & Assoc)
Sent: Thursday, August 14, 2008 5:21 PM
To: Duff, Barry C; Garland, Mike L
Cc: Naseman, Bill E
Subject: RE: Progress Report - ATL Subsea Document Control

Barry,

When we met with the Atlantis team on July 1st, we agreed to review and socialize your draft proposal of the procedure. To date we have disucussed it (in its hard copy form) with Thunder Horse, who have pointed out some discrepancies with what they are doing, and with Dave Turner in Subsea Ops.

Our impression from your presentation was that the Project had not bought into this for existing work, only future work. We also discussed that, if the cost implications were excessive (your estimate was $2M?), we could provide an alterative to re-numbering by using attributes for the documents, which is something that really would have to happen anyway before anything could be re-numbered.

Mike Garland met with Bill Naseman today and Bill has requested further socialization with the next suite of Projects. Bill does not wish to change,
1. a shared program document which would now be specific to Atlantis and 2. to create a one off approach.

Bill has requested that Mike meets with the other Subsea teams next week to discuss further.

Whatever the eventual plan we need to figure out the most cost effective way to proceed, attributes versus re-numbering.

As an aside, Dave Turner reminded me that the critical issue during hurricane season is to have easily available, a set of documents for the installed SS1 equipment.

Regards
Andy

From: Duff, Barry C
Sent: Wednesday, August 13, 2008 3:03 PM
To: Garland, Mike L; Gregg, Andrew (Gregg Valdes & Assoc)
Subject: RE: Progress Report - ATL Subsea Document Control

Mike/Andy,

Where are you on updating the procedure? Its been a couple of months and several meetings on this and there is still no resolution.

From: Curtis, Tinikka (NES)
Sent: Tuesday, August 12, 2008 11:05 AM
To: Duff, Barry C
Cc: Garland, Mike L; Gregg, Andrew (Gregg Valdes & Assoc)
Subject: Progress Report - ATL Subsea Document Control

Good Morning,

I thought it would be a good idea for me to send a quick progress report of where we are on things with Atlantis Subsea Document Control.

There are (2) main action items:

Document Numbering

- **Format of the Technical document number**
- **Sector recommendations**
- **Incorporating the changes within Documentum – Folder structure/ attributes**
- **Process for changing existing document numbers to the new document number format**

I feel the subjects listed above breakdown the steps we need to take before we can truly implement a new document numbering scheme.
I am working on taking all existing notes, spreadsheets, etc. and merging them into 4 spreadsheets by the subject listed above.
Each subject will have a separate spreadsheet, (sheet 1 - will draw out the details) to get a visual and (sheet 2 will list all the issues in a line item format).

I will be sending an email with the four spreadsheets attached for your review/comment.
I will then schedule a meeting so that we can all meet to discuss a plan moving forward.

Daily Activities:

- **Loading documents incoming documents**
- **PI &D request from Ops**
- **Comparing Technip system to Documentum**
- **Issues Log – list all the documents that leads need to take action on**

The items listed above are more of the day to day activities that I execute on a regular base with the exception of focusing on P&ID's.
However I am trying a process that will allow me to work on all 3 at one time.
I am taking Technip master registry (with all revs listed) by sector merging it with the Documentum registry by sector.
The Technip attributes are in one color and documentum attributes are in another color.

Once I put the combine list in order by document number:

I can see just how much data is missing.
I can bold the P&IDs' to check the revision before sending the list to Kristy
I can see all attribute history for existing documents before loading new revisions (especially if the documents that are candidate for re-numbering or issues).
I will have a print-out to use for identifying Drill Centers, and phases when working with the leads.

Because I do not want Operations waiting, I will send Kristy a list of P&ID's by sector as soon as I complete that section.
Then I will request all missing documents from Technip by the sector and load them, along with the new documents coming in.
I will send the sector reports out as I complete them to keep all informed.

Thanks,

Tinikka Curtis
Atlantis - North Flank
Document Control
Tinikka.Curtis@bp.com
281-249-8978

From: Duff, Barry C
Sent: Thursday, June 05, 2008 11:13 AM
To: Broman, William H(HOU); Smit, Dirk
Subject: Atlantis Subsea Close-Out Identified Issues and Recommendations
Bill/Dirk,

Thanks for meeting with me today to discuss DC-1/SS-1 Project Closeout issues.

Attached is the list of issues that were discussed and my recommendations based upon my review so far.

I have not reviewed all the Subsea Sectors in detail, but believe I've captured the gist of the major issues. If any other significant issues arise, I'll let you know.

Please review the attached list and provide comments, counter recommendations, accept etc. Once these issues are resolved, we can proceed with working the details to complete the DC-1/SS-1 closeout.

Let me know if you have any questions or wish to discuss these issues in detail.

Best Regards,

Barry C. Duff
Project Services Lead

BP DW GoM Production
Atlantis Subsea Team
11700 Old Katy Road, Suite 150
Office number 4.64
Houston, Texas 77079
Office: +1 (281) 249-1510
Cell: +1 (713) 408-1933
Fax: +1 (281) 249-4323
Together, we will make Atlantis the safest, cleanest, most reliable and best performing asset!

From: Duff, Barry C
Sent: Wednesday, June 11, 2008 12:19 PM
To: Smit, Dirk; Broman, William H(HOU)
Subject: RE: Atlantis Subsea Close-Out Identified Issues and Recommendations
Dirk/Bill,

Tinikka and I met with Mike Garland and Andy Gregg to review the issues and recommendations. It was a very productive meeting, in short, they we reached consensus on the recommendations.

Summarized below are the major actions going forward:
1) Andy Gregg (Custodian of the spec) and Mike are going to draft and update to the Document Control Spec.
2) The new draft will be circulated within the respective GoM organizations for review and comments, (note there is no issue with our checking out the project numbers between Atlantis and Mardi Gras - they are ours), the focus of the review with the other groups will be more on defining what type of documents belong in which Sectors, Discipline and Document type.
3) Once finalized, the updated spec will be rolled out.

On a parallel path within Atlantis Subsea we will be taking the following actions:

1) Put together a Document Control presentation to rollout to the team. This presentation will focus on the following:

Purpose
Scope
Roles and Responsibilities
Procedures
Creating a New Controlled Document
Revising an Existing Controlled Document
Review Cycle
Distribution Control
Control of Obsolete Documents
Current Issues and Recommendations
Questions and Answers

The primary goal is to educate folks to code the document numbers correctly to the appropriate Sectors, Discipline and Document types and move away from the "shotgun" variability we currently have.

2) Using the Closeout matrix I developed, Tinikka will status all the documents that Technip currently has and work with the leads to close them out as appropriate. If a document still requires revision/needs to be finalized, the new number scheme and standardized Sectors, Discipline and Document type will be used. For those that are already final, the document will be coded in Documentum to xref the appropriate standardized Sectors, Discipline and Document types.

Let me know if you have any questions.

Barry

From: Smit, Dirk
Sent: Friday, June 06, 2008 7:03 AM
To: Duff, Barry C; Broman, William H(HOU)
Subject: RE: Atlantis Subsea Close-Out Identified Issues and Recommendations

Barry

Per our conversation yesterday, I agree with your recommendations.

It may be obvious, but I'd suggest that your recommendations list is going to be a living document. As the team works on this effort, it may become apparent that some of the recommendations need to be revised. Part of the work process should be to have an active 'Plan-Do-Check-Act' cycle in place to ensure that the solutions developed today really work tomorrow.

Great job on this. Once again, you've blazed a trail for the rest of the asset.

Thx
ds

From: Duff, Barry C
Sent: Thursday, June 05, 2008 11:51 AM
To: Broman, William H(HOU); Smit, Dirk
Subject: RE: Atlantis Subsea Close-Out Identified Issues and Recommendations

Opps. For got to add the issue of the Technip document Status codes that have migrated into the BP System. See attached for update.
<< File: Doumentum Issues n Recommendations.xls >>

From: Duff, Barry C
Sent: Thursday, June 05, 2008 11:13 AM
To: Broman, William H(HOU) (william.broman@bp.com); Smit, Dirk
Subject: Atlantis Subsea Close-Out Identified Issues and Recommendations

Bill/Dirk,

Thanks for meeting with me today to discuss DC-1/SS-1 Project Closeout issues.

Attached is the list of issues that were discussed and my recommendations based upon my review so far.

I have not reviewed all the Subsea Sectors in detail, but believe I've captured the gist of the major issues. If any other significant issues arise, I'll let you know.

Please review the attached list and provide comments, counter recommendations, accept etc. Once these issues are resolved, we can proceed with working the details to complete the DC-1/SS-1 closeout.

Let me know if you have any questions or wish to discuss these issues in detail.

Best Regards,

Barry C. Duff
Project Services Lead

BP DW GoM Production
Atlantis Subsea Team
11700 Old Katy Road, Suite 150
Office number 4.64
Houston, Texas 77079
Office: +1 (281) 249-1510
Cell: +1 (713) 408-1933
Fax: +1 (281) 249-4323
Together, we will make Atlantis the safest, cleanest, most reliable and best performing asset!

From: Duff, Barry C
Sent: Wednesday, June 11, 2008 9:36 AM
To: Curtis, Tinikka (NES)
Subject: Atlantis Subsea Document Control Training Presentation
Tinikka,

Please take the lead in putting together a presentation per the outline in the attached presentation.

The attached presentation is something I put together a couple of jobs ago on the role of document control in an environmental management system. You may or may not find some of the text useful, but I though it was something you could build from vs. starting from scratch. I have performed some quick replacements of words and job titles to "Atlantis" the presentation, but have not performed an overall review of the applicability or context.

Also I'll send you a couple of separate e-mails with other documents you may find useful in putting the presentation together. In addition, incorporate the Issues and Recommendations I sent you yesterday.

Lets target the week of June 23rd to roll the presentation out to staff. Please arrange for the meetings to do this (include all of Bill Broman's direct reports and Willie Mae). Target 1-1/2 hours (1 hour for presentation). Tuesday afternoons are usually a good time slot for subsea meetings.

Best Regards,

Barry C. Duff
Project Services Lead

BP DW GoM Production
Atlantis Subsea Team
11700 Old Katy Road, Suite 150
Office number 4.64
Houston, Texas 77079
Office: +1 (281) 249-1510
Cell: +1 (713) 408-1933
Fax: +1 (281) 249-4323
Together, we will make Atlantis the safest, cleanest, most reliable and best performing asset!

From: Duff, Barry C
Sent: Friday, June 06, 2008 3:39 PM
To: Gregg, Andrew (Gregg Valdes & Assoc)
Subject: Document Number Guidelines 1440-AD-PR-0212 and Other Procedure and Practice Issues
Greg,

I left you a voice mail regarding this as well. Attached is a list of issues that have been identified which are imperative to be resolved to complete the DC-1/SS-1 turnover and closeout for Atlantis Subsea.

Resolving these issues will also assist us in cleaning up the remaining DC-1 and DC-3 work as well as future work.

The big issue is the one I requested your input on about a month ago regarding Atlantis Subsea being assigned Project Numbers 1441-1479. In summary this is what I am proposing:

A)ááá Make 1440 Program Level for common subsea production.
B)ááá Make 1441-1449-Production Drill Centers - 1441-DC-1; 1442-DC-2; 1443-DC-3; 1444-DC-4; etc
C)ááá Make 1450 Program Level for common water injection.
D)ááá Make 1451-1459-Water Injection Drill Centers - 1451-DC-1; 1452-DC-2; 1453-DC-3; 1454-DC-4; etc
E)ááá Make 1460 Program Level for common gas production.
F)áááá Make 1461-1469-Gas Production Drill Centers - 1465-DC-5. etc
G)ááá Make 1470 Program Level for common gas Injection.
H)ááá Make 1471-1479-Gas Injection Drill Centers - 1471-DC-1; 1472-DC-2; 1473-DC-3; 1474-DC-4; 1475-DC-5. etc

Note: SS-1 and SS-2 are to use DC-1 Project Number 1441. DC-1 Rev 0, SS-1 Rev 1 and SS-2 Rev 2. Likewise for ANF. Single Line Tie back and trees, controls, flowlines and umbilicals is Rev 0, Initial field development is Rev1, Expansion is Rev 2.

Let me know we need to set up a meeting to discuss this further.

Best Regards,

Barry C. Duff
Project Services Lead

BP DW GoM Production
Atlantis Subsea Team
11700 Old Katy Road, Suite 150
Office number 4.64
Houston, Texas 77079
Office: +1 (281) 249-1510
Cell: +1 (713) 408-1933
Fax: +1 (281) 249-4323
Together, we will make Atlantis the safest, cleanest, most reliable and best performing asset!

From: Jondle, John J
Sent: Sunday, May 11, 2008 3:59 PM
To: Duff, Barry C
Cc: Malone, Ryan P
Subject: RE: Document Number Scheme
Are you proposing this by Drill Center or Project? i.e. would North Flank ANF Man 5 at DC-1 be DC-1 or DC-3?

Otherwise, without researching any unintended consequences, I don't see any major issues.

From: Duff, Barry C
Sent: Tuesday, May 06, 2008 3:50 PM
To: Jondle, John J; Malone, Ryan P
Subject: Document Number Scheme

John/Ryan,

We are struggling with the established document number scheme as defined in document 1400-AD-PR-0212, "BP Gulf of Mexico Deepwater Development Document Numbering Guide", (copy attached).

The primary issue is that for Atlantis, the Numbering Guide, is set up to put all Subsea documents under the same number scheme. Currently Atlantis has six (6) Drill Site Developments planned over the Field life, namely:

DC-1 (Original)
SS-1 Phase I Manifolds
SS-2 Phase II Manifolds
DC-3 (aka North Flank)
DC-2
DC-5.

There are also planned expansions at DC-1 and DC-3.

As we try to close out individual projects, the current number scheme makes this task extremely difficult in that we do not know unless the document is opened and reviewed whether it is for DC-1, SS-1, SS-2 or DC-3.

The current number scheme has a sequence gap of 40 between Atlantis (1440) and Mardi Gras (1480). I am proposing to modify the Project number scheme as follows:

Project	Project Number	Comments
DC-1 (Original)	1440	No change. This minimizes the number of documents that need to be revised
SS-1 Phase I Manifolds		No change. SS-1 Manifolds would be part of DC-1.
SS-2 Phase II Manifolds		No change. SS-2 Manifolds would be part of DC-1.
DC-3 (aka North Flank)	1445	
DC-2	1450	
DC-5	1455	No change. New Manifolds would be part of DC-1.

DC-1 Expansion would be part of DC-1.		No change. New Manifolds
DC-3 Expansion would be part of DC-3.		No change. New Manifolds
Future Expansion Atlantis Subsea.	1460	Would be reserved for
Future Expansion Atlantis Subsea.	1465	Would be reserved for
Future Expansion Atlantis Subsea.	1470	Would be reserved for
Future Expansion Atlantis Subsea.	1475	Would be reserved for

Does this make sense to you? Alternatively, we can assign a unique project number to SS-1 and SS-2. Another consideration is water injection and whether or not a separate project number is needed.

I would appreciate your feed back to assist in the project closeout efforts (primarily for DC-1/SS-1, but this also affects flowlines and umbilicals for DC-3). If you approve the change, I will work with the owners of the 1400-AD-PR-0212, "BP Gulf of Mexico Deepwater Development Document Numbering Guide", to make the change.

Best Regards,

Barry C. Duff
Project Services Lead

BP DW GoM Production
Atlantis Subsea Team
11700 Old Katy Road, Suite 150
Office number 4.64
Houston, Texas 77079
Office: +1 (281) 249-1510
Cell: +1 (713) 408-1933
Fax: +1 (281) 249-4323
Together, we will make Atlantis the safest, cleanest, most reliable and best performing asset!
<< File: 1400-10-AD-PR-0212.pdf >>

Dirk/Bill,

I've assembled an Excel Workbook with all the Atlantis Subsea documents in Documentum.

I've also reviewed the BP Document Numbering Procedures, (1400-10-AD-PR-0212 and 1440-10-AD-PR-0003) as well as the Technip Requirements for Technical Documents (TOI-AT-EN-0001, Rev 3).

Listed below are the issues identified and the recommendations:

Document Numbering Procedures (1400-10-AD-PR-0212)

1) The current number scheme does not accommodate multiple Drill Centers. The result is DC-1 and DC-3 is utilizing the same number scheme. I'm proposing the following:

   A) Make 1440 Program Level for common subsea production.

   B) Make 1441-1449-Production Drill Centers - 1441-DC-1; 1442-DC-2; 1443-DC-3; 1444-DC-4; etc

   C) Make 1450 Program Level for common water injection.

   D) Make 1451-1459-Water Injection Drill Centers - 1451-DC-1; 1452-DC-2; 1453-DC-3; 1454-DC-4; etc

   E) Make 1460 Program Level for common gas production.

   F) Make 1461-1469-Gas Production Drill Centers - 1461-DC-1; 1462-DC-2; 1463-DC-3; 1464-DC-4; 1465-DC-5. etc

   G) Make 1470 Program Level for common gas Injection.

   H) Make 1471-1479-Gas Injection Drill Centers - 1471-DC-1; 1472-DC-2; 1473-DC-3; 1474-DC-4; 1475-DC-5. etc

Note: SS-1 and SS-2 are to use DC-1 Project Number. DC-1 Rev 0, SS-1 Rev 1 and SS-2 Rev 2. Likewise for ANF. Phase I is Rev 0. Expansion is Rev 1.

2) Each Drill Center must have their own version of a document unless it's at the program level.

3) Vendor Documents (e.g., FMC) have been entered into our system directly. Recommend creating our own version and/or including in Vendor in data books.

Document Numbering Procedures (1400-10-AD-PR-0212) cont.:

4) A procedure needs to be developed for DSPs. Recommend DSPs only be developed pre-Statement of Requirements, (SOR) and Design Basis, (DB). The DSPs will become part of (either through text or as an appendix/attachment to the applicable SOR or DB. Future DSPs are administered through the MOC process.

5) Make Discipline Identifier MN-Manifolds, MN-ManTIS and PC-Project Controls, PS-Project Services, HS-Health and Safety, HSSE-Health, Safety, Security and Environmental (includes Regulatory). CO-Construction, CO-Construction and Fabrication.

6) Under Sector Identifier. Change 40-Subsurface to 40-Drilling and Completion

7) Document Type Identifiers. Weld procedures and identified by both PR-Procedure and SP-Specification. Standardize on PR-Procedure.

8) Only REV 0, IFA, IFD, IFC and ASB go into Documentum. Drafts do not.

9) Flexjoints and Coil tubing are not specifically identified in the Document Numbering Procedure. I'm proposing that they be included in 37-Risers. Move all Diverter Block to 44- Production Riser Tensioning System. Change description to 44- Production Riser Tensioning and Diverter System.

Document Numbering Procedures (1400-10-AD-PR-0212) cont.:

10) Should we be using Discipline Identifiers (e.g., ME-Mechanical, EL-Electrical etc) vs. the following that are provided?

DISCIPLINE	IDENTIFIER	DISCIPLINE	IDENTIFIER
Project Management		Installation	
Administration	AD	Installation General	IG
Project Controls	PC	Installation	HO
Financial	FN	Organization	HI
Assurance	AS	Installation	MS
Interface	IF	Marine Surveyor	CV
Information Mgmt	IM	Certified Verification	
Project Management	PM	Agent	HE
		Installation Equipment	SK
Engineering		Installation Sketch	CT
General	GE	Contractual	MT
Process	PR	Met-Ocean	DP
Mechanical	ME	Dynamic Positioning	TU
4 ctural	ST	Tugs, Work Boats,	BA
Architectural	AR	AHTS	RO
Electrical	EL	Barges	SU
Inst. & Controls	IC	ROV's	BL
Fire & Gas	FG	Survey	
Communications	CM	Ballast	
Marine Engineering	MA		EV
Naval Architecture	NA	Environmental/Regulator	RG
Piping	PI	y	
Hull	HL	Environmental	AN
Drilling Systems	DR	Regulatory	PL
Corrosion & Paint	CP		RI
		Accommodations	SB
Construction	CO	Pipeline	FL
Hook-Up &	HU	Risers	MN
Commissioning		Subsea	MO
		Flowlines	MR
Facilities Operations	OP	Manifolds	MU
Drilling Operations	DO	Marine Outfitting	SY
		Mooring	HY
Health & Safety	HS	Machinery/Utilities	HV
		Stability	WT
Purchasing	PU	Hydrodynamics	
Quality	QA	HVAC	
		Weight	

Document Numbering Procedures (1400-10-AD-PR-0212) cont.:

11) For example, there is Sector 32-Trees, but all the Discipline IDs are ME-Mechanical or SB-Subsea. Likewise Sector 35-Controls, but Discipline IDs are all SB-Subsea vs. IC-Instrument and Controls. Manifolds are split with MN and ME, ST etc.

30-Subsea Well Systems (General) Sector Report (also relates to both procedures above)

1) The Sector 30-Subsea Well System (General) has 1,491 documents. Sector 30 (and General) should be limited to documents that are applicable to all of the Subsea Sector.

2) Move Chain Jack to Sector 20-Topsides.

3) Jumpers are assigned to several Sectors. Consolidate all to Sector 39-Flexibles and re-title "Jumpers". Sector 39 is currently not used. Alternatively move to 34-Pipelines and Flowlines.

4) Flowline and Riser Assurance documents are under this Sector. Move to 34-Pipelines and Flowlines or 37-Riser as applicable.

5) Umbilical Assurance documents are under this Sector. Move to 36-Umbilicals.

6) All GOC move to applicable Sectors.

7) Manifold, PLET and PLEM Header Tests. File under 33-Manifolds or 34-Pipelines and Flowlines.

8) IWOCs documents are under this Sector. Move to 60-Drilling Rig.

9) Move PLETs to 34-Pipelines and Flowlines? Or 33-Manifolds?

10) All QA/QC move to applicable Sectors.

11) Move all Diverter Block to 44- Production Riser Tensioning System. Change description to 44- Production Riser Tensioning and Diverter System.

12) Move HWHR to 34-Pipelines/Flowlines or 39-Jumpers?

13) Change Sector from 33-Manifold to 33-Manifold, PLEMs and PLETs (unless PLETs are combined with 34-Pipelines and Flowlines).

14)

Document Numbering Procedures (1440-10-AD-PR-0003) cont.:

31-Wellhead Sector Report (also relates to both procedures above)

1) The Sector 31 has 32 documents. Currently being used as the repository for Well Specific Handover Packages. Primary Discipline ID is HU-Hookup and Commissioning. Need to investigate this further.

32-Trees Sector Report (also relates to both procedures above)

1) The Sector 32 has 574 documents. Primary Discipline ID is ME-Mechanical and OP-Facility Operations. Need to investigate this further, (see comment above).

33-Manifold Sector Report (also relates to both procedures above)

1) The Sector 33 has 256 documents. Primary Discipline ID is MN-Manifold Need to investigate this further, (see comment above).

2) Inconsistencies in the use of Rev 0 vs. IFD or IFC. Design related documents should all be IFD in their final form. Fabrication or Construction related documents should have IFC in their final form. Program level documents not related to design, fabrication or Construction should have Rev 0, (e.g., 1, 2, 3, etc) in their final form.

3) Use of Superseded vs. IFV (VOID). IFV should be the standard, but it is not in the procedure.

4) Jumpers are mixed in with 33-Manifolds. Change 33-Manifolds to 33-ManTIS? Prefer to change 39-Flexibles to 39-Flexibles and Ridged Jumpers.

5) Several Status Codes on the attached report are not in the procedure (e.g., AFC, PRE, FIR, FRA, RAN, "A", IFQ, Issued for Use? IFI? What are these? Why is not the procedure codes used?

6) Inconsistencies in the use of Specification and Procedure. The main area this is inconsistent is for Weld procedures. For manufacturing it is a specification. For construction or fabrication it is a procedure.

34-Pipelines and Flowlines Sector Report (also relates to both procedures above)

1) The Sector 34 has 2,587 documents. Primary Discipline IDs are PL-Pipelines and FL-Flowlines. Need to investigate this further, (see comment above).

Document Numbering Procedures (1440-10-AD-PR-0003) cont.:

35-Controls Sector Report (also relates to both procedures above)

1) The Sector 35 has 1,417 documents. Primary Discipline ID is SB-Subsea. Need to investigate this further, (see comment above).

36-Umbilicals Sector Report (also relates to both procedures above)

1) The Sector 36 has 541 documents. Primary Discipline ID is SB-Subsea. Need to investigate this further, (see comment above).

37-Risers Sector Report (also relates to both procedures above)

1) The Sector 37 has 760 documents. Primary Discipline ID is RI-Risers. Need to investigate this further, (see comment above).

38-Installation Sector Report (also relates to both procedures above)

1) The Sector 38 has 438 documents. Multiple Discipline IDs used. Need to investigate this further, (see comment above).

40-Subsurface Well Systems (General) Sector Report (also relates to both procedures above)

1) The Sector 40 has 4 documents. IF-Interface and PM-Project Management Discipline IDs used. Need to investigate this further, (see comment above).

43-Risers Sector Report (also relates to both procedures above)

1) The Sector 43 has 4 documents. Consolidate with Sector 37-Risers above.

44-Production Riser Tensioning System Sector Report (also relates to both procedures above)

1) The Sector 44 has 56 documents. . RI-Riser and SB-Subsea Discipline IDs used. Consolidate with Sector 37-Risers above?

46-Wellbay Sector Report (also relates to both procedures above)

1) The Sector 46 has 4 documents. Consolidate with other Sectors above.

47-Risers Sector Report (also relates to both procedures above)

1) The Sector 47 has 2 documents. Consolidate with Sector 38-Installation above.

49-Shipping and Receiving Sector Report (also relates to both procedures above)

1) The Sector 49 has 17 documents. Consolidate with Sector 38-Installation above.

Document Numbering Procedures (1440-10-AD-PR-0003) cont.:

50-Floating Systems Sector Report (also relates to both procedures above)

1) The Sector 50 has 3 documents. Duplicate of Topsides.

60-Drilling Rig Sector Report (also relates to both procedures above)

1) The Sector 60 has 2 documents.

Document Numbering Procedures (1440-10-AD-PR-0003)

1) There are 26 Status Codes currently being used. Need to simplify to 10. This procedure needs to be incorporated into the 1400-AD-PR-0212. The codes should be the same for all GoM assets.

2) Status Code CA is two characters, all others have three characters. Make ICA? It is not in the Procedure but is used on the attached Manifold Sector Report.

From: Naseman, Bill E
Sent: Friday, April 25, 2008 2:18 PM
To: Broman, William H(HOU)
Cc: Duff, Barry C
Subject: Project Close out for Subsea

Bill -

During our discussion of project close out today at my staff meeting, Barry brought up several issues related to the subsea project close out work. The issues were far reaching and I think honestly portray where we are (or maybe better said where we aren't) as it relates to the subsea close out. I appreciate Barry's openness about this situation and agree with his points about what should have been done by whom by when, but I also recognize that we are where we are and can't change the past.

I've had a chance to sit down with Dirk and discuss this a little and I have secured Dirks commitment to help out here to develop the content of the subsea close out. Dirk has agreed to assist the two of you in developing this during the week of May 5. He has also agreed to help raise the priority with the team leads if required. Some key points on this-

We aren't going to have everything that we'd want if we were to do this whole project again, but we need to capture and organize what we have.

We shouldn't spend a great deal of time going back and trying to re-create things that we don't have. There are certainly lessons to be learned on this front.

If we need to bring in some resources on the project services side to help out in coordinating this, we need to identify what we need and for how long. I will handle approvals for this with Simon.

Bill Naseman
Project Services Manager
Atlantis
Office: 281-366-6936
Cell: 832-257-6927
Bill.Naseman@bp.com

From: Smit, Dirk
Sent: Wednesday, April 30, 2008 7:31 AM
To: Broman, William H(HOU); Duff, Barry C
Subject: RE: Project Closeout
Great

I'll see what next week looks like and set up something up with you folks to pull together a plan.

Thx
ds

From: Broman, William H(HOU)
Sent: Tuesday, April 29, 2008 9:53 PM
To: Smit, Dirk; Duff, Barry C
Subject: RE: Project Closeout

Thx Dirk, as we discussed I would appreciate any guidance you may have to offer on making this fit for purpose and on a schedule that works for my team.

I have gotten some questions about how we are closing out a project that is not done yet for Subsea, so that is a good point for us to sort out (DC1 SS1 is still going and we would assume that SS2 is just held out separately).

Bill Broman
Atlantis Subsea Delivery Manager
GOM Deepwater
281-249-1337 office
william.broman@bp.com

From: Smit, Dirk
Sent: Monday, April 28, 2008 6:37 AM
To: Broman, William H(HOU); Duff, Barry C
Subject: Project Closeout

Bill/Barry

Had a brief conversation with BillNaseman on Friday re SS project closeout.

I have an offer for you folks. I'm hooked up this week, but next week, I'd be happy to come and meet with you to talk about an project closeout.

My approach is very simplistic, but complies with BP MpCp and our vendor data/knowledge mgmt requirements.

I'd be happy to meet with you folks and participate in putting together a fit for purpose plan that will give your team clear directions on what needs to be done.

Thx
ds

From: Gregg, Andrew (Gregg Valdes & Assoc)
Sent: Tuesday, May 06, 2008 4:55 PM
To: Duff, Barry C
Cc: Garland, Mike L; Curtis, Tinikka (NES)
Subject: RE: Proposed Change to Document Numbering Guide
Barry,

Tinikka and Mike have kept me advised on the background of the established document numbering issues, and the intent for DC-3, so I follow the logic of your proposal.

My initial thought is that using the Project numbering as you have outlined would appear to be very simple and workable, and still retains options of how best to organise the folder structure within Atlantis.

However, I would like to talk this through in detail with Tinikka/Mike to ensure we have thought of the implications, and provide you with feedback.

Regards
Andy

From: Duff, Barry C
Sent: Tuesday, May 06, 2008 3:58 PM
To: Gregg, Andrew (Gregg Valdes & Assoc)
Cc: Garland, Mike L; Curtis, Tinikka (NES)
Subject: Proposed Change to Document Numbering Guide

Hi Andy,

We are struggling with the established document number scheme as defined in document 1400-AD-PR-0212, "BP Gulf of Mexico Deepwater Development Document Numbering Guide", (copy attached).

ISSUE
The primary issue is that for Atlantis, the Numbering Guide, is set up to put all Subsea documents under the same number scheme, (i.e., Project 1440, Sector 30). Currently Atlantis has six (6) Drill Site Projects either underway or planned over the Field life, namely:

DC-1 (Original)
SS-1 Phase I Manifolds
SS-2 Phase II Manifolds
DC-3 (aka North Flank)
DC-2
DC-5.

There are also planned future expansions at DC-1 and DC-3.

As we try to close out individual projects, the current number scheme makes this task extremely difficult in that we do not know unless the document is opened and reviewed whether it is for DC-1, SS-1, SS-2 or DC-3.

PROPOSAL

The current number scheme has a sequence gap of 40 between Atlantis (1440) and Mardi Gras (1480). I am proposing to modify the Project number scheme as follows:

Project	Project Number	Comments
DC-1 (Original)	1440	No change. This minimizes the number of documents that need to be revised
SS-1 Phase I Manifolds		No change. SS-1 Manifolds would be part of DC-1.
SS-2 Phase II Manifolds		No change. SS-2 Manifolds would be part of DC-1.
DC-3 (aka North Flank)	1445	
DC-2	1450	
DC-5	1455	
DC-1 Expansion		No change. New Manifolds would be part of DC-1.
DC-3 Expansion		No change. New Manifolds would be part of DC-3.
Future Expansion	1460	Would be reserved for Atlantis Subsea.
Future Expansion	1465	Would be reserved for Atlantis Subsea.
Future Expansion	1470	Would be reserved for Atlantis Subsea.
Future Expansion	1475	Would be reserved for Atlantis Subsea.

I would appreciate your feed back to assist in the project closeout efforts (primarily for DC-1/SS-1, but this also affects flowlines and umbilicals for DC-3).

I am assuming you are the owner of 1400-AD-PR-0212, "BP Gulf of Mexico Deepwater Development Document Numbering Guide" and would facilitate making the change. Once approved, I can work with the subsea contractors to change their contracts and procedures.

Best Regards,

Barry C. Duff
Project Services Lead

BP DW GoM Production
Atlantis Subsea Team
11700 Old Katy Road, Suite 150
Office number 4.64
Houston, Texas 77079
Office: +1 (281) 249-1510
Cell: +1 (713) 408-1933
Fax: +1 (281) 249-4323
Together, we will make Atlantis the safest, cleanest, most reliable and best performing asset!

<< File: 1400-10-AD-PR-0212.pdf >>

E-mail 5 of 61

Unknown

From: Duff, Barry C [Barry.Duff@bp.com]
Sent: Saturday, August 30, 2008 2:29 PM
To: Naseman, Bill E
Cc: Abbott, Ken (SWIFT); Ken Abbott (Home); Smit, Dirk; william.broman@bp.com
Subject: Proposed Number Scheme Concerns.

Bill,

I understand despite providing previous approval for a new number scheme, Andy and Mike have now raised the concern of the drill center specific document numbers being at the project level through you.

Since neither Andy or Mike have spoken to me regarding this, I can only speculate as to what their concerns are, but I will attempt to speculate what they might be.

Background
The procedure that Atlantis falls under is used by the following assets, using the following numbers.
* 1400 - PLT and PST
- 1410 - Thunder Horse Project
- 1420 - Holstein Project
- 1430 - Mad Dog Project
- 1440 - Atlantis Project
- 1480 – Mardi Gras Project (Written in the procedure is a note that Mardi Gras is not using this procedure).

What I have proposed is to utilize the available numbers between 1440 and 1479 for Atlantis subsea projects.

1) Other Assets will use this numbering procedure. It is my understanding other projects/assets are not going to use this procedure. Tubular Bells is using a new procedure and Nakika, Horn Mountain and Pompano are all under different procedures.

Another advantage of the proposed scheme is that if Atlantis expands further beyond phase II, then the Mardi Gras numbers can be used.

2) This will separate Subsea from the rest of Atlantis. Documentum is a file cabinet, it is independent of the number scheme used. This is evident that it is a BP standard tool, yet as noted above lots of other assets both upstream and downstream use the same system yet with different numbering procedures/schemes.

Major Atlantis systems are already separated by the existing number scheme, in that not all the oil circuit is in one area. A user has to go to topsides and subsea and then wells to get all the components. My proposal will make the subsea part much easier to find documents in that the new number scheme will organize all the drill center specific subsea documents together rather than be co-mingled with tens of thousands of similar documents, (which is the current situation).

Atlantis subsea projects will still be in the series of numbers following the original Atlantis number set.

All of Atlantis would still be in the same file folder structure. The number just helps organize it better and makes is much easier for users to find the document they want.

3) Use of the attributes fields will eliminate the need to have a smart number scheme. It is my understanding that the attribute field's) are a bit like using key words in Google. Sure it will narrow your search but the user will still need to comb through thousands of documents to find the one they want. Using my number scheme, they will be able to navigate the file folders in Documentum directly to the drill center of interest. Once there, they have already culled through tens of thousands of documents. The attribute fields still can be used, but will be more affective with new numbers.

Regarding the attributes field. Who is going to come up with the attributes? Will there be a new procedure written to document all the key words? Currently we have over 16,000 documents for subsea. By the time we complete phase one and phase two, this number could easily grow to ten times or 160,000 documents for subsea alone. Assuming only one attribute per document that is 160,000 attributes. I don't see how this approach is better than having a smart number scheme, that can be developed from numbers that are already available.

4) There are other ways to accomplish this without using the project level numbers. If there is, I would be more than happy to look at that, but unfortunately, the designers of the number scheme did not provide room for expansion. The only available numbers are between the major project numbers.

If there are other issues please let me know and I will try to address the concerns. All the other modifications I have suggested for the procedure are only to clarify the existing structure.

Let me know how you want to proceed. In the interim, I have instructed Tinikka to proceed loading documents into Documentum under the current procedure.

From: Duff, Barry C

Sent: Friday, August 15, 2008 10:09 AM

To: Gregg, Andrew (Gregg Valdes & Assoc); Garland, Mike L

Cc: Naseman, Bill E

Subject: RE: Progress Report - ATL Subsea Document Control

Greg,

See attached e-mails to you back in May and June. I think I'm very clear that this change is needed as soon as possible. It has also been re-iterated in the meetings. The $2M cost was to change everything, which we do not want to do, but we need to fix the system before $2M becomes $10M.

<< File: Document Number Guidelines 1440-AD-PR-0212 and Other Procedure and Practice Issues.doc >> << File: Proposed Change to Document Numbering Guide.doc >>

From: Gregg, Andrew (Gregg Valdes & Assoc)
Sent: Thursday, August 14, 2008 5:21 PM
To: Duff, Barry C; Garland, Mike L
Cc: Naseman, Bill E
Subject: RE: Progress Report - ATL Subsea Document Control

Barry,

When we met with the Atlantis team on July 1st, we agreed to review and socialize your draft proposal of the procedure. To date we have disucussed it (in its hard copy form) with Thunder Horse, who have pointed out some discrepancies with what they are doing, and with Dave Turner in Subsea Ops.

Our impression from your presentation was that the Project had not bought into this for existing work, only future work. We also discussed that, if the cost implications were excessive (your estimate was $2M?), we could provide an alterative to re-numbering by using attributes for the documents, which is something that really would have to happen anyway before anything could be re-numbered.

Mike Garland met with Bill Naseman today and Bill has requested further socialization with the next suite of Projects. Bill does not wish to change,

1. a shared program document which would now be specific to Atlantis and 2. to create a one off approach.

Bill has requested that Mike meets with the other Subsea teams next week to discuss further.

Whatever the eventual plan we need to figure out the most cost effective way to proceed, attributes versus re-numbering.

As an aside, Dave Turner reminded me that the critical issue during hurricane season is to have easily available, a set of documents for the installed SS1 equipment.

Regards
Andy

From: Duff, Barry C
Sent: Wednesday, August 13, 2008 3:03 PM
To: Garland, Mike L; Gregg, Andrew (Gregg Valdes & Assoc)
Subject: RE: Progress Report - ATL Subsea Document Control

Mike/Andy,

Where are you on updating the procedure? Its been a couple of months and several meetings on this and there is still no resolution.

From: Curtis, Tinikka (NES)
Sent: Tuesday, August 12, 2008 11:05 AM
To: Duff, Barry C
Cc: Garland, Mike L; Gregg, Andrew (Gregg Valdes & Assoc)
Subject: Progress Report - ATL Subsea Document Control

Good Morning,

I thought it would be a good idea for me to send a quick progress report of where we are on things with Atlantis Subsea Document Control.

There are (2) main action items:

Document Numbering

- **Format of the Technical document number**

1 **Sector recommendations**

2 **Incorporating the changes within Documentum – Folder structure/ attributes**

3 **Process for changing existing document numbers to the new document number format**

I feel the subjects listed above breakdown the steps we need to take before we can truly implement a new document numbering scheme.

I am working on taking all existing notes, spreadsheets, etc. and merging them into 4 spreadsheets by the subject listed above.

Each subject will have a separate spreadsheet, (sheet 1 - will draw out the details) to get a visual and (sheet 2 will list all the issues in a line item format).

I will be sending an email with the four spreadsheets attached for your review/comment.
I will then schedule a meeting so that we can all meet to discuss a plan moving forward.

Daily Activities:

- **Loading documents incoming documents**

1 **PI &D request from Ops**

2 **Comparing Technip system to Documentum**

3 **Issues Log – list all the documents that leads need to take action on**

The items listed above are more of the day to day activities that I execute on a regular base with the exception of focusing on P&ID's.

However I am trying a process that will allow me to work on all 3 at one time.
I am taking Technip master registry (with all revs listed) by sector merging it with the Documentum registry by sector.

The Technip attributes are in one color and documentum attributes are in another color.

Once I put the combine list in order by document number:

I can see just how much data is missing.
I can bold the P&IDs' to check the revision before sending the list to Kristy
I can see all attribute history for existing documents before loading new revisions (especially if the documents that are candidate for re-numbering or issues).

I will have a print-out to use for identifying Drill Centers, and phases when working with the leads.

Because I do not want Operations waiting, I will send Kristy a list of P&ID's by sector as soon as I complete that section.

Then I will request all missing documents from Technip by the sector and load them, along with the new documents coming in.

I will send the sector reports out as I complete them to keep all informed.

Thanks,

1/12/2012

Tinikka Curtis
Atlantis - North Flank
Document Control
Tinikka.Curtis@bp.com
281-249-8978

1/12/2012

E-mail 6 of 61

Unknown

From: Duff, Barry C [Barry.Duff@bp.com]
Sent: Tuesday, September 02, 2008 10:14 AM
To: Abbott, Ken (SWIFT); Ken Abbott (Home)
Subject: FW: P&IDs For Operations

From: Duff, Barry C
Sent: Friday, August 15, 2008 7:51 AM
To: Naseman, Bill E; Broman, William H(HOU) (william.broman@bp.com)
Subject: FW: P&IDs For Operations

Bill/Bill,

Per other e-mails, Tinikka has been asked by the Operations Document Control person (Christy), to provide all the Subsea P&IDs **regardless of their status** (e.g, complete or not complete,handed over or not handed over). Christy will not say who has made the request, but we believe it is coming from Nita Oza to support an IM Evaluation she is leading. The reason this is not a straight forward request is the document number scheme is so fundamentally flawed that all drawings are grouped under the document type DWG vs. Mechanical, Electrical, P&ID, PFD etc).

Some back ground on the P&ID Request from Operations. As you can see from the note below. The P&IDs for Subsea are not complete have have not been approved or handed over to Operations.

The current procedures are out of date. However in principle, the project document control person (Tinikka), function is to facilitate the handover of approved and final documents to the Operator (BP). For Atlantis this is Christy in Alastair's group.

The risk in turning over drawings that are not complete are:

1) The Operator will assume the drawings are accurate and up to date. This could lead to catastrophic Operator errors due to their assuming the drawing is correct. Turning over incomplete drawings to the Operator for their use is a fundamental violation of basic Document Control, the IM Standard and Process Safety Regulations.

2) Having the project document control person turnover drawings that are not complete, places the onus on her that they are the most current version. Currently there are **hundreds if not thousands** of Subsea documents that have never been finalized, yet the facilities have been turned over. In some cases, Tinikka does not have all the versions. Turning over the version she has, runs the risk of the wrong version being used.

The point here is that even if we condoned handing over documents that were not approved/handed over, we run the risk of not handing over the most current version, (the one theoretically closest to being the most accurate).

To re-iterate, it is fundamentally wrong to turn over documents to Operations (for Operations use and purposes), before they have been formally finalized and Handed Over to Operations.

I have instructed Tinikka to not honor this request and to refer them to me. I may require both of your support in responding to this request.

Please contact me if you have any questions.

Best Regards,

Barry C. Duff

BP DW GoM Production
Atlantis Subsea Team
11700 Old Katy Road, Suite 150
Office number 4.64
Houston, Texas 77079
Office: +1 (281) 249-1510
Cell: +1 (713) 408-1933
Fax: +1 (281) 249-4323
Together, we will make Atlantis the safest, cleanest, most reliable and best performing asset!

From: Curtis, Tinikka (NES)
Sent: Thursday, August 14, 2008 4:58 PM
To: Vass, Malcolm (Technip)
Cc: Duff, Barry C
Subject: RE: P&IDs For Operations

Hi Malcom,

Thank-you very much for providing updated status regarding the P&ID request from the Operations group.

Thanks,

Tinikka Curtis
281-249-8978
Tinikka.Curtis@bp.com

-----Original Message-----
From: McVass@technip.com [mailto:McVass@technip.com]
Sent: Thursday, August 14, 2008 4:41 PM
To: Curtis, Tinikka (NES)
Subject: Fw: P&IDs For Operations

Tinikka,

With respect to the Atlantis P&IDs. We are currently reviewing all P&IDs with the objective of providing Operations a package of as-built drawings. This will include:

Subsea architectural drawings,
Subsea piping / flowline schematics,

Subsea P&IDs.

This package should be available within the next 2 to 3 weeks, allowing for routing through our document control process.

Hope this helps.

Regards,

Malcolm Vass
Technip PM - BP Atlantis
281 249 1934

E-mail 7 of 61

Unknown

From: Duff, Barry C
Sent: Wednesday, September 03, 2008 6:35 AM
To: Curtis, Tinikka (NES)
Cc: Abbott, Ken (SWIFT TECHNICAL SERVICES); Ken Abbott (Home)
Subject: Document Control Procedures

Attachments: ssproj-10-PC-PR-000007 Quickflow Supervisor Initiator - Quick Reference Guide .doc; ssproj-10-PC-PR-000001 DWP Projects Document Control Procedure.doc; ssproj-10-PC-PR-000002 Users' DCTM Quick Reference Guide.doc; ssproj-10-PC-PR-000005 version 3.0.doc

Tinikka,

Attached are the Document Control Procedures for the new group I'm joining. I have not read these yet but this could be a great go by, to use to develop Atlantis procedures that are consistent with the rest of the SPU.

I understand from speaking to Patty Sanchez yesterday, that they also do load all revisions of a document, but they are using a feature (Documentum?) that only allows the most recent version to be found. Is sounds like the capability exist to get around ensuring the most recent version is checked out.

Please read through this and share with Ken and I your thoughts. I'll do the same.

Best Regards,

Barry C. Duff

BP DW GoM Production
Atlantis Subsea Team
11700 Old Katy Road, Suite 150
Office number 4.64
Houston, Texas 77079
Office: +1 (281) 249-1510
Cell: +1 (713) 408-1933
Fax: +1 (281) 249-4323

Together, we will make Atlantis the safest, cleanest, most reliable and best performing asset!

ssproj-10-PC-PR-00 0007 Quickfl...

ssproj-10-PC-PR-00 0001 DWP Pro...

ssproj-10-PC-PR-00 0002 Users' ...

ssproj-10-PC-PR-00 0005 version...

Deepwater Docs

Quickflow Supervisor- Quick Reference Guide

Projects Version
Aug 2008, V 1.0

BP Doc. No.: ssproj-10-PC-PR-000007

Quickflow – DCTM Electronic Review Cycle

- One document per Quickflow
- Set up – Sequential or Parallel
- Date sensitive (if for review) 'Due Out of Review' date
- System generated Email Notifications

System Generated Quickflow Email Notifications

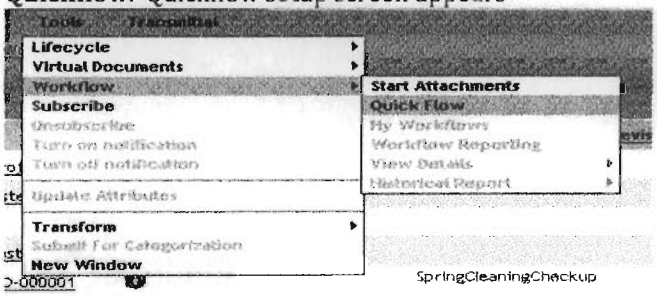
The following information is included on a Quickflow Email Notification:

- **Document number, Title, Revision Number, Date Initiated, Due Out of Review Date, List of Reviewers, Quickflow Initiator, Task Screen link**

Initiate a Document Quickflow

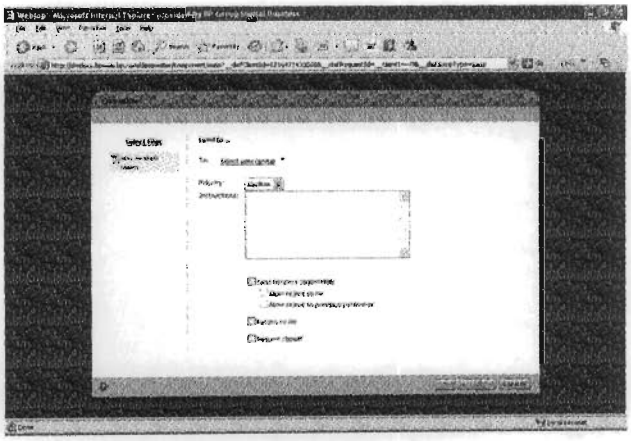
1. Navigate to desired document
2. Check the box to the left of the document number

In the Quick Action toolbar, click **Tools** and select **Workflow**, follow the arrow to the next box and select **Quickflow**. Quickflow setup screen appears



Quickflow Setup Screen

- Select User/Groups
- Priority
- Instructions
- Send to Users Sequentially
- Return to Me
- Require Signoff



Selecting Quickflow 'Review Cycle' Criteria

Select User/Groups

1. Click on **Select User/Groups** box to go to **Select User or Group** screen
2. Within the **[Starts with]** box enter a user's last name or the beginning of users group, such as projects. All groups that start will projects will appear

NOTE: Advantage of initially searching by group, multiple user names can be selected at one time.

3. Search in the left side box for user name(s) to be copied into the box on the right of the screen
4. Click on the move arrow button to move the user name(s) into the right side box

NOTE 1: User names can be rearranged in second box by clicking on the move arrows in the upper right hand side of the second box

NOTE 2: The last user name selected will be able to view in the document's **Task** screen, **Comments** tab, **Approvers Comments** link

5. Click **OK** to return to the Quickflow setup screen

Priority dropdown list will determine if the document is for review or notification (information)

1. Select **Medium** or **High** document is for **Review**
2. Select **Low** for **Notification** (Issued for Information, receipt, & or return)

Instructions

Enter Document Approver's name EX: **Approver: Joe Green**. This is crucially informative for the reviewers and approver

Sequential or Parallel review cycle

Click the box next to **Send to users sequentially**, for one user at time review. EX: One reviewer and one approver i.e., approver will review all comments last

NOTE: Leave this box unchecked if parallel review is desired

Return to me

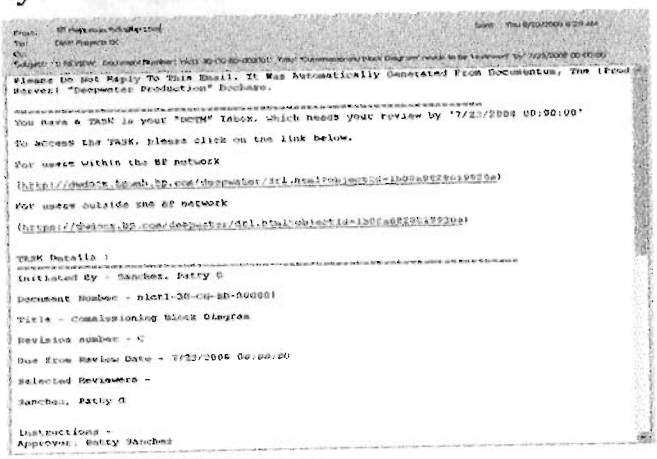
Check this box if you want the document link to appear in your DCTM Inbox after **all** users have **'Finished'** their Quickflow

Require signoff

After user clicks on **Finish**, another screen will appear requiring the user to enter their BP password in the field supplied. (Check within the document's Properties table> History tab to view user's name.) Afterwards, the user clicks on **OK** to have the document link removed from their DCTM Inbox.

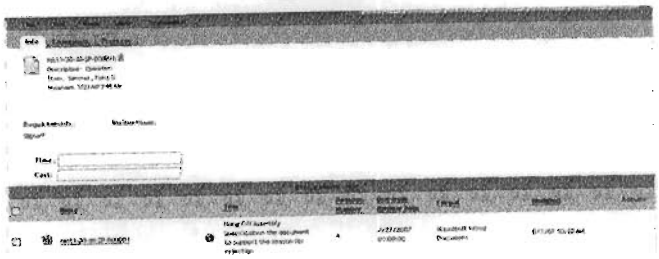
After Start Quickflow is clicked, a system generated email notification will arrive in all listed users' Outlook Inbox.

System Generated Email Notification



After Clicking On Email Task Screen Link

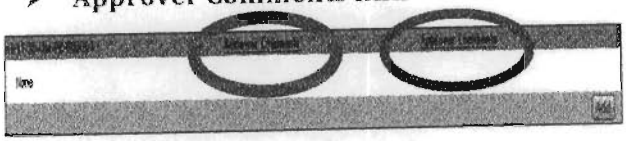
Task Screen



Quickflow Comments Tab / Boxes

NOTE: Comments boxes are for dialogue only.

- Reviewer Comments link
- Approver Comments link



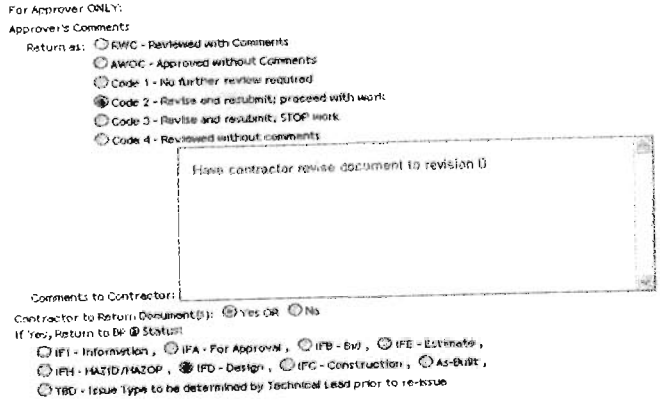
Document Approver's Comments:

AFTER reviewing all comments, if any and returning to the DCTM **Inbox> Task** screen

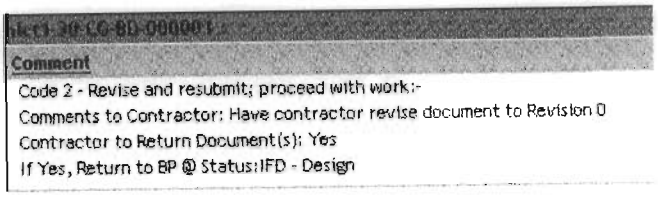
1. Click on the **Comments** tab
2. Click on **Approver Comments** link, **Comment** screen will open

(**NOTE**: Comments related to document, need to appear on the document)

Approver's Comments Box



After Clicking OK, a synopsis of Approver's selection appears in the Comments box

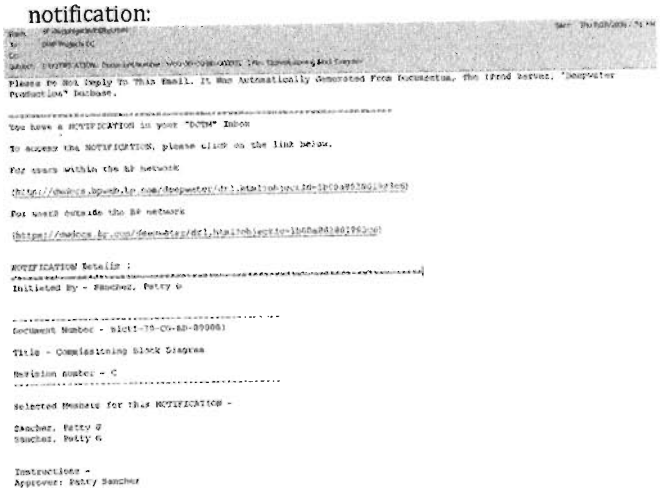


NOTE: If a document is stilled Checked Out / locked in the Quickflow Task Screen, a warning screen will appear after clicking on Finish button. The user will have to either Check In or Cancel Checkout of the document before successfully removing the document link from their DCTM Inbox

WARNING: Document is still Checked Out / Locked. Return to your Quickflow Task screen to Check In or Cancel Check Out of document prior to Finishing your Quickflow.

After all Reviewer(s) and Approver has finished their Quickflows:

1. DWP Projects will receive a system generated email notification:



2. DWP Projects DC will go to the document's **task** screen, **Comments** tab> **Comments** box to view document Return Status and instructions.
3. DWP Projects DC will update the document's Properties table i.e., Return Status, BP Transmittal Number, Return Date, indicate on a BP generated transmittal the Return Status and instructions to the contractor of how they should proceed with their document

DWP Projects Document Control central email Address:
DWP Projects DC
(dwpprojectsdc@bp.com)

Deepwater Docs Usage & Training Questions

For questions about training or the use of Deepwater Docs as well as questions on project specific processes and documents, please contact Patty Sanchez, x61552; Sherlene Moore, x68767; and Linda Gibson, x63989.

Deepwater GoM Production

bp

document control procedure

BP Document No: ssproj-10-PC-PR-000001

Rev.	Date	Description	Prepared By	Checked By	Approved By	BP Reviewed	BP Approved
1	12-Jun-2006	Issued for Use	Ray Paulk	Patty Sanchez	-	-	Brad Jorgenson
0	25-Jan-2006	Issued for Use	RP	PS	-	-	BJ

Document Control Number	Project Abbreviation	Sector Designation	Discipline Code	Document Class	Sequence Number	Document Revision
	ssproj	10	PC	PR	000001	1

Case 4:09-cv-01193 Document 345-5 Filed in TXSD on 04/04/13 Page 65 of 99

TABLE OF CONTENTS

SECTION	TITLE	PAGE
1.0	SCOPE	3
2.0	GENERAL / DEFINITIONS	3
2.1	General	3
2.2	Definitions and Nomenclature	3
3.0	DOCUMENT FORMATTING	3
3.1	Title Page	3
3.2	Document Body	4
3.3	Appendices	4
3.4	Native File Properties (Metadata)	5
4.0	DOCUMENT NUMBERING	5
4.1	Minimum Information Requirements to Assign Document Number	6
4.2	Document Number Format	6
4.3	Revisions	7
4.4	Canceling Document Numbers	8
5.0	DOCUMENT TRANSMITTAL	8
5.1	Issue Types	8
5.2	Transmittals	9
5.3	Sending Documents to BP	10
5.4	Document Control Workflow Procedure	11
6.0	DOCUMENT REVIEW AND COMMENTARY	12
6.1	Document Review and Commentary Procedure (BP Internal)	12
7.0	MANAGEMENT OF ASSET DOCUMENTATION	12
8.0	DOCUMENT TRACKING & PROJECT CONTROL	12
9.0	DOCUMENT RETENTION / ARCHIVING	13
APPENDIX A		14
APPENDIX B		15
APPENDIX C		16
APPENDIX D		17
APPENDIX E		ERROR! BOOKMARK NOT DEFINED.
APPENDIX F		19
APPENDIX G		20
APPENDIX H		21

1.0 SCOPE

This procedure provides a uniform and consistent method for the formatting, review, tracking and retention of project documents for the (DWP Project Name).

2.0 GENERAL / DEFINITIONS

2.1 General

This procedure is required for ALL BP DWP Projects.

All formal and informal documents distributed between BP, Contractors, Vendors, and other outside agencies will be controlled as outlined by this procedure.

Contractor documents which do not comply with this procedure will be rejected, and any associated earned value milestone will be considered incomplete.

2.2 Definitions and Nomenclature

Originator	Individual initiating the document
(DWP Proj ID)	(DWP Project Name), See Appendix A
DC	Document Control
DCTM	Documentum
PM	Project Manager
PE	Project Engineer
xmtl	Transmittal
Document	Includes all types of documents and drawings

3.0 DOCUMENT FORMATTING

The formatting of technical documents shall conform in every respect to the format of this document, including title page, document body and appendices. The format of all project documents, presentations, and drawings should adhere to BP's corporate identity and branding guidelines.

Supplemental document components may be added at the discretion of the originator or at the request and approval of the Project Manager, including, but not limited to: revision table, document reference table, etc.

Documents shall be written or submitted in the American (U.S.) English language. Originators are responsible for ensuring that proper quality checks have been completed prior to submitting the document for review, including checks for formatting, grammar and spelling. The technical content, formatting, appearance, and prose content of documents reflects heavily on BP's reputation, and should be respected by all project personnel.

3.1 Title Page

The title page should have the same appearance as the title page of this document. The project logo and BP corporate logo are to appear at the top of the page. The document title is to appear in the middle of the page, using the "Univers 45 Light" font, font point

size 24, font color green (RGB settings: R:0 G:128 B:0). The document title should appear in all lowercase letters, with exceptions for acronyms and proper names, which should appear in uppercase and proper-case respectively.

The bottom of the title page should contain the BP document number prominently displayed, using the "Arial" font, font point size 18, font color 50% gray. Beneath the document number, a contractor reference box should include a small version of the contractor logo, if applicable, any contractor reference, or project reference fields, if applicable. Beneath the contractor reference box, a revision record table should maintain the revision number, revision date, revision description, preparer, checker, contractor approval, BP reviewer, and BP approval boxes. Beneath the revision record table, a document control table should include the project abbreviation, sector designation, discipline code, document class, sequence number, and revision.

The revision description must contain one of the issued TYPES as listed in Section 5.1.

3.2 Document Body

The body of the document should be outlined using the same structure as this document (ex. 1.1.1.1, etc.). The text of the document should be in "Arial" font, font point size 11, font color black. The level-1 outline chapter titles should use bold uppercase, subsequent sections should use bold proper case.

NOTE: Certain modifications to the standard document format (including header, footer, indentation, etc.) may be made only with approval of the Project Manager.

The first chapter of all documents should be entitled "SCOPE", and should succinctly describe the purpose and or scope of the document. Subsequent chapter titles are at the discretion of the Originator.

3.3 Appendices

Appendices are defined as supplemental information relative to a document which does not require inclusion in the document body.

Appendices should be attached within the 'parent' document file and not submitted as separate files, except for referenced documents as outlined in Section 3.3.1. Each appendix should appear on a separate page, or pages, and should be numbered alphabetically (A, B, C, etc). Each appendix should be titled in bold uppercase (ex. APPENDIX A)

3.3.1 Independent Reference Documents

When transmitting any technical document to BP for review and approval, the Contractor will include the .pdf file of the 'parent' document, plus a copy of each referenced document file all within a .zip file format. The .zip file will be named the assigned BP document number.

NOTE: Documents which are referenced and warrant inclusion within a 'parent' document (i.e. drawings, documents, etc.) should not be attached or included within the .pdf file of the parent document. Any referenced documents which warrant inclusion should always be transmitted as **separate** files within the parent and referenced document .zip file. There should be one file submitted for

Case 4:09-cv-01993 Document 845-5 Filed in TXSD on 04/04/12 Page 68 of 99

each document number referenced within the 'parent' document. The only exception to this rule is in the case of dependent reference documents (Section 3.3.2)

If the 'parent' document contains such references, and those referenced files are **not** included with the transmittal, the document will be considered incomplete and rejected.

Within the 'parent' document, each referenced document will be listed by document number and title, as per Appendix D of this document.

Referenced documents which are part of the public domain or industry domain (i.e. API specifications, ASME standards, etc.) do not need to be transmitted, except where specifically requested.

3.3.2 Dependent Reference Documents

Dependent reference documents are defined as documents or drawings which require attachment to a parent document; however the attachments will not be independently controlled. In other words, the attachments cannot exist without the parent document.

For example, in the case of an engineering study which discusses several potential design options, the appendices may include drawings of the various options outlined within the parent document. These drawings are not to be controlled independently, and are only relevant within the context of the parent document.

Parent documents will be transmitted in native or .pdf format along with a consolidated PDF file containing all dependent reference documents. These two files should be transmitted within a single .zip file carrying the parent document number.

All dependent reference documents should be clearly notated with the parent document number within the statement:
"DEPENDENT DOCUMENT- NOT INDEPENDENTLY CONTROLLED. See Document No: _____"

3.4 Native File Properties (Metadata)

Care should be taken to appropriately annotate document with appropriate properties or metadata (ex. Microsoft Word Documents- See File Menu, Properties, Summary Tab).

4.0 DOCUMENT NUMBERING

The BP Originator of any document or correspondence is responsible for assigning the document number in accordance with this procedure. The onsite contractors, BP integrated team members, will also be responsible for assigning the document number for only those documents that **they are the owner/originator**, in accordance with this procedure.

Document numbers may be requested from BP by submitting the deliverables register per Section 8.1

Document numbering on a project shall follow either Asset or Project formats. Generally, documents created that show additions, extensions, or modifications to any existing Asset systems shall follow the Asset format. For handling of and document numbering for Asset documents being modified because of the Project effort, please refer to Section 7 below and the Asset Controlled Procedure - Deepwater Gulf of Mexico Production Procedure for Modifying Documents with Documentum Access, BP Document Number 1400-10-PM-PR-8010 - This will allow the document to integrate into the Asset system in a seamless manner. Documents generated to show completely new systems or equipment shall follow the Project document numbering format. Asset and Project document numbering format breaks will be reviewed, agreed, and formalized through interface documents.

Asset document numbers are controlled by the Asset DC. Upon request, the BP Project DC will contact Asset DC to receive such numbers on behalf of the project.

Project document numbers shall follow the format detailed in Section 4.2 of this procedure. It should be noted that the 'sequence number" in the document number is assigned **solely** by the Documentum System.

4.1 Minimum Information Requirements to Assign Document Number

4.1.1 Document Type (project (technical) or correspondence (non-technical))
4.1.2 Project abbreviation (See Appendix A)
4.1.3 Sector (See Appendix B)
4.1.4 Discipline (See Appendix B)
4.1.5 Document Class (See Appendix C)
4.1.6 (Preliminary) Document Title
4.1.7 Electronic format of document (file type ex: .doc, .dwg, .pdf, etc.)

4.2 Document Number Format

Technical documents shall be numbered in a series of five (5) field identifiers in a structured format. The general structure is as follows:

Document Control Number	Project Abbreviation	Sector Designation	Discipline Code	Document Class	Sequence Number
	(DWP Proj ID)	10	PC	PR	xxxxxx

Project Abbreviation	Unique for each project. Five alphanumeric (A-Z, 0-9) characters. Example: (DWP Proj ID) – (DWP Project Name) (Refer to Appendix A)
Sector Identifiers	Two numeric characters which identify project group or component. (Refer to Appendix B)
Discipline Identifiers	The responsible discipline. Two alpha characters. (Refer to Appendix B)

Document Class Identifiers	Categorizes documents by Class. Two alpha characters. (Refer to Appendix C)
Sequence Number	**A unique six-digit number will be assigned for each project document (technical) and correspondence document (non-technical) from within Documentum. Blocks of numbers can be given out to the contractor after initial receipt of their document deliverable list.** (At the time this document was created the procedure called only for a four-digit number, the system has since been revised to a six-digit sequence number.)
Sheet Number	Sheet numbers are assigned sequentially starting with 01. A multi-sheet document (drawing) is a document that extends over a several sheets. All the sheets will be reviewed and approved individually and each will carry a revision number. **Each sheet will be assigned a separate BP document number.** **NOTE**: A multi-page document is issued, reviewed and approved as a single document and does not require sheet numbers, although page numbers may be used for clarity.

4.3 Revisions

4.3.1 Numbering

All documents will be issued with a revision number which is not part of the document number. Revisions created prior to issuance to BP will be controlled as specified in the contractors own engineering and design procedures.

Document revisions created prior to BP Approval shall be numbered alphabetically (A, B, C, etc.). **WHEN CONTRACTOR SHOULD ISSUE DOCUMENT WITH NUMERAL REVISION NUMBER** The first revision approved by BP will be numbered numerically (0, 1, 2, etc.).
The first revision submitted as "Issued for Approval" should be numbered alphabetically (A, B, C, etc.). The first revision submitted as "Issued for Design" or "Issued for Construction" (as appropriate), should be numbered '0'.

4.3.2 Placement of BP Initials

Within the document's revision block, on the appropriate revision number row, in the BP 'Reviewer' & BP "Approver' squares, the BP Project Manager, Project Engineer, or Delegate, in some cases this could be 2 different people, will need to 'redline' / input the appropriate client initials for the document.

The contractor will input the client's initials within the appropriate square of the document's revision block.

After BP has reviewed and returned the document with approval status of **Reviewed with Comments**, the BP persons' initials should be placed in the **BP Reviewed** column within the row of the appropriate revision 'number' prior to the document being re-issued to BP.

After BP has reviewed and returned the document with approval status of **Approved without Comments**, the BP persons' initials should be placed in the **BP Reviewed** column **and BP Approved** column within the row of the appropriate revision number prior to the document being re-issued to BP.

4.4 Canceling Document Numbers

If an item is cancelled, the document number is also cancelled. After a document number is cancelled, it may not be reassigned.

The original document shall be marked "VOID" and "See Document _____" and kept with the project records as outlined in Section 8.0. The master document register entry for the cancelled document shall be likewise annotated.

5.0 DOCUMENT TRANSMITTAL

5.1 Issue Types

Documents may be issued to BP under the following issue types. **The revision description must contain one of the issued TYPES as listed in Section 5.1.**:

5.1.1 Issued for Information (IFI)

Document has been issued for information purposes only and does not represent Contractor's final document to be approved. Information contained in such documents should be used with caution, and team members should take care in noting the preliminary nature of the information in any other interfaces with other parties. **NOTE:** This issue type does not go through a review cycle work process.

5.1.2 Issued for Cost Estimating (IFE)

Document has been issued for cost estimating purposes only. Documents with the IFE issue type will not reach Revision 0.

5.1.3 Issued for Bid (IFB)

Document has been issued for procurement purposes only. If Contractors are authorized to generate procurement documents or information, or are authorized under contract to issue project-specific requests for quotation (RFQs), or other technical documents for procurement purposes, then such documents may be issued directly by the duly authorized Contractor. All documents issued directly by Contractor for this purpose must also abide by all required approval cycles and document control requirements.

5.1.4 Issued for HAZID / HAZOP (IFH)

Document has been issued by Contractor so that a Hazard Identification Study (HAZID) or Hazard and Operability Study (HAZOP) may be performed.

5.1.5 Issued for Approval (IFA)

Document has been issued by Contractor for BP review and approval. BP will invoke its Document Review and Commentary Procedure (Section 6.1), and then return the document to the contractor with any revisions or comments. Contractor will then incorporate BP comments, or opt to formally respond to BP PM, should Contractor be unable to incorporate BP comments.

Should BP not make any comments or revisions to the document (Approved without Comments), BP will notify Contractor that no revisions are necessary. BP will specify to the Contractor as to the appropriate issue type whether documents should be re-issued to BP as Issued for Bid (IFB, Section 5.1.2), Issued for Design (IFD, Section 5.1.5) or Issued for Construction (IFC, Section 5.1.6). Such instructions should be clarified in the Deliverables List

In the event that Contractor is unable to fully incorporate BP comments, the document should be re-issued to BP as Issued for Approval.

If Contractor has made additional comments or modifications to the document while incorporating BP comments, the document should be re-issued to BP as Issued for Approval.

5.1.6 Issued for Design (IFD)

Document has been issued with the incorporation of BP Comments, and has not otherwise been modified by Contractor. BP, at its discretion, will later invoke a secondary process to review and approve the document as Issued for Construction, in accordance with BP's internal Integrity Management Standard.

5.1.7 Issued for Construction (IFC)

Document has been issued with the incorporation of BP comments, and has not otherwise been modified by Contractor. A Contractor may only issue documents as Issued for Construction if given such authority by BP.

Documents which are Issued for Construction are considered fit for purpose in accordance with BP's internal Integrity Management Standard.

5.1.8 As-Built

Upon completion of installation the latest revision of Issued for Construction is marked up to reflect any as constructed changes and issued '**As Built**'.

5.2 Transmittals

Documents formally transmitted to BP must be accompanied by a separate transmittal document i.e., a separate transmittal should be used for each of the following transmittal types. As well separate transmittals should be used for each of the Issue Types (see section 5.1):

5.2.1 Technical Document Transmittal

All technical documents are to be sent accompanied by a Technical Document Transmittal form (see Appendix F). The Document must be labeled "TECHNICAL DOCUMENT TRANSMITTAL", and contain, at a minimum, all information shown in the attached example, but the actual format and appearance of this document is at the discretion of the Contractor.

For official transmittal of documents, either as "Issued for Approval – IFA" (Section 5.1.4), "Issued for Design – IFD" (Section 5.1.5) or "Issued for Construction – IFC" (Section 5.1.6), every file must be submitted individually, and listed individually on the transmittal. Technical drawings must be issued separately (one file per document number). **Technical drawings are to be submitted in portable document format (PDF), unless otherwise requested by Project Manager. All other technical documents are to be issued electronically in their native file or .pdf file format, so BP comments may be applied electronically.**

For convenience, documents may be issued as "Issued for Information", "Issued for Bid" or "Issued for HAZID / HAZOP" as PDFs (and referenced drawings, documents, etc. will be included with the parent document within a .zip file). But under no circumstances will drawings included as referenced documents to be considered **officially** issued, unless issued separately, and separately listed on the transmittal prior to becoming a referenced document.

5.2.2 Correspondence Document Transmittal

All correspondence documents are to be sent accompanied by a Correspondence Document Transmittal form (see Appendix G). The Document must be labeled "CORRESPONDENCE DOCUMENT TRANSMITTAL", and contain, at a minimum, all information shown in the attached example, but the actual format and appearance of this document is at the discretion of the Contractor.

All correspondence documents are to be issued as "IFI – Issued for Information".

5.2.3 Vendor Document Transmittal

All vendor documents are to be sent accompanied by a Vendor Document Transmittal form (see Appendix H). The Document must be labeled "VENDOR DOCUMENT TRANSMITTAL", and contain, at a minimum, all information shown in the attached example, but the actual format and appearance of this document is at the discretion of the Contractor.

5.3 Sending Documents to BP

Documents are considered formally received when submitted under transmittal via electronic mail to:

dwpprojectsdc@bp.com

or under transmittal via hard-copy sent to:

Document Control (Project ID)
BP GoM Deepwater Production
501 Westlake Park Blvd, WL3 1893

Houston, Texas 77079 USA

Contractors should consider documents as received by BP only following return of transmittal confirmation. The receipt of the transmittal confirmation does not mean that BP has "accepted" the document. BP may, upon further review of the document, determine that the document has not met the specified technical or document control requirements, and may reject the document.

It is required from all contractors to indicate on their transmittals for submitting documents for review/approval the required return date, as well as verbiage that documents are deemed approved if the client does not return approval status notification by the specified date.

Electronic documents issued as "Issued for Approval" are required to be submitted in native file or .pdf file format with the exception of technical drawings as outlined in Section 5.2.1.

When documents are larger than 2 megabytes (MB), BP DC will send a link, username, and a password to the Contractor DC to gain access to the FTP site www.ibackup.com.

Signature required documents must be transmitted as hard-copy via mail courier.

5.4 Document Control Workflow Procedure

5.4.1 Contractor DC distributes electronic and/or hard copies of documents to BP DC

5.4.2 BP DC verifies and sends acknowledgement of receipt to Contractor DC

5.4.3 BP Team Member identifies the DCTM minimum information requirements as defined in Section 4.1

5.4.4 BP DC imports documents into DCTM

5.4.5 BP DC forwards document to Project Manager (PM) or Project Engineer (PE) per Project Distribution Matrix (see (DWP Proj ID)-XX-XX-XX-XXXXXX)

5.4.6 BP PE updates supplemental project control data system, as necessary.

5.4.7 BP DC invokes Document Review and Commentary Procedure (Section 6.1)

5.4.8 Upon completion of Document Review and Commentary Procedure, BP DC updates DCTM with approval status, performs high-level document quality check, generates transmittal (xmtl), and returns documents to Contractor DC via email if file size is 2.5mb or less OR ibackup if file size is 2.5mb or larger. DC will return reviewed document(s) to contractor along with BP transmittal indicating the appropriate Approval Status: RWC or AWC. NOTE: DC will send BP transmittal only (no document(s) attached) if the Approval Status is AWOC.

APPROVAL STATUS:

RWC - Reviewed with Comments (Contractor will incorporate BP's comments and re-issue document). **The** BP PM, PE, or delegate will advise Contractor of the appropriate issue type.

AWOC - Approved without Comments (Contractor will NOT make any additional changes)**.** The BP PM, PE, or delegate will advise Contractor of the appropriate issue type.

5.4.9 If Contractor comments are required, then Contractor Document Review and Commentary Procedure is invoked and Process Restarts at 5.1.1. **Contractor team members should take care to ensure that all software tracking settings are configured properly (ex. Reviewer Name)**

6.0 DOCUMENT REVIEW AND COMMENTARY

6.1 Document Review and Commentary Procedure (BP Internal)

6.1.1 BP DC, PE, or PM as directed, selects Project Team Members to review document, and generates electronic routing procedure or hard copy routing slip.

6.1.2 Document is routed and reviewed in order (sequentially or in parallel, as required) to Project Team Members as selected in 6.1.1. **Project Team Members are to use electronic commenting where possible, and should take care to ensure that all software tracking settings are configured properly (ex. Reviewer Name)**

6.1.3 PE or PM approves or rejects revisions or comments made during 6.1.2.

6.1.4 PE or PM forwards document to BP DC and resumes DC Workflow procedure at 5.4.8.

7.0 MANAGEMENT OF ASSET DOCUMENTATION

Asset Documentation is defined as any document which is managed by the asset team. For the (DWP Project Name) project, Asset Documentation is managed by the (DWP Project Name) Document Control team.

When adding or modifying any asset documentation, the existing procedure entitled Deepwater Gulf of Mexico Production Procedure for Modifying Documents with Documentum Access, BP Document Number 1400-10-PM-PR-8010, will be used. In the event of any conflict, the aforementioned procedure will dominate.

At no time shall any Contractor issue revised asset documentation as "Issued for Construction". The asset team maintains the sole authority to upgrade any revised asset documentation to be "Issued for Construction".

8.0 DOCUMENT TRACKING & PROJECT CONTROL

Originators, including BP Team Members and Contractors, should be aware of any project control requirements relative to the creation of their project documents, and are responsible for tracking any relevant project data as outlined in the Project Control Procedure, including, but not limited to: earned value milestone dates, payment milestone dates, deliverable schedules, etc.

BP DC tracks standard document milestone dates and revisions (within DCTM) of issue for approval (IFA), Approved without Comments (AWOC), and issue for design (IFD) / issue for construction (IFC). Any supplemental milestones should be tracked in accordance with the Project Control Procedure.

8.1 Deliverables Register

Contractors are responsible for the creation, maintenance and regular submission of a complete Deliverables Register. This register is used to assign BP document numbers, and must contain, at a minimum, all required fields per Section 4.1 (including document type, project abbreviation, sector, discipline, document class, document title, and electronic format of document). The deliverables register should also contain other project control information, including CTR or WBS reference, weighting factors, and planned / earned value progress as defined by Project Control Procedure.

9.0 DOCUMENT RETENTION / ARCHIVING

Documents are retained within the Documentum project document management system. Within the document database (docbase) entitled Deepwater Production> DWP Projects> (DWP Proj ID) – (DWP Project Name) folder.

Data is backed-up daily and archived every 2 weeks.

APPENDIX A

PROJECT	
ID	**NAME**
doss1	Dorado Subsea 1
enss1	Entrada Subsea Development Project
gobl1	GoM Major Offshore Risk Assessment Project
hlbl1	Holstein Blast Modification Project
hlpw1	Holstein Long Term Produced Water Treatment
hlwa1	Holstein H2
hmbl1	Horn Mountain Blast – Control Room
hmfa1	Horn Mountain Flow Assurance Project
hmfj1	Horn Mountain Flexjoint Repair 1
hmnw1	Horn Mountain NW Field Ext 1
hmpo1	Horn Mountain POB Increase
ISAB1	Isabela
kgci1	King Chemical Injection System Field Trial
kgsc1	King SCR Coating Defect Project
kgss2	King South Well Development & Tieback near King D6 Well
ksp1	King Subsea Pump 1
mabl1	Marlin Blast – Select
mafa1	Marlin Flow Assurance Project
mas12	Marlin Subsea 1 Sidetrack 2
mdbl1	Mad Dog Blast Modification Project
mdsw1	Mad Dog Southwest Ridge 1
nkfa1	NaKika Flow Assurance Project
nkph2	NaKika Phase 2
nkur1	NaKika Umbilicals Replacement 1
pobl1	PJV Blast – Execute Phase 1
pobl2	Pompano Blast – Select Engineering
poet1	Walter MC 161 Tieback
poet2	Pompano Expansion & Area Tiebacks
POET3	LLOG MC72 Tieback to Pompano
ssgs1	Subsea Global Standardization
ssproj	Subsea and Projects
ssst1	Subsea Standardization 1
xhpht	Extreme High Pressure High Temperature

APPENDIX B

Sector		Discipline/Sub-Sector
10 - General Project	AD	Administration
	CG	Commissioning
	HS	Health & Safety
	IF	Interface
	IM	Integrity Mgmt
	KM	Knowledge Mgmt
	PC	Project Controls
	PM	Project Mgmt
	PR	Partner
	QA	QA/QC
15 - Regulatory	KM	Knowledge Mgmt
	QA	QA/QC
	RG	Regulatory
20 - Topsides	AR	Architectural
	CG	Commissioning
	CO	Construction
	EL	Electrical
	GE	General
	HS	Health & Safety
	IC	Instrument & Controls
	KM	Knowledge Mgmt
	ME	Mechanical
	PI	Piping
	PS	Process
	QA	QA/QC
	ST	Structural
30 - Subsea Systems	CG	Commissioning
	CT	Controls-Production
	CW	Controls-Workover
	FA	Flow Assurance
	FL	Flowlines
	FX	Flexible
	HP	HIPPS
	HS	Health & Safety
	IN	Installation
	JU	Jumpers
	KM	Knowledge Mgmt
	MN	Manifolds
	MW	Material & Corrosion
	PL	Pipeline
	QA	QA/QC
	RH	Running Tools
	RI	Risers
	RO	ROV System
	RW	Riser-Workover
	SB	Subsea General
	SI	System Integration Test
	SP	Subsea Processing
	TR	Trees
	UM	Umbilicals
	WL	Wellheads

Sector		Discipline/Sub-Sector
40 - Wells Systems	JU	Jumpers
	KM	Knowledge Mgmt
	PD	Production Risers
	PJ	Production Jumpers
	PT	Production Riser Tensioners
	QA	QA/QC
	RI	Risers
	SJ	Specialty Joints
	SR	Surface Trees
	SW	Subsea Wellheads
	UM	Umbilicals
50 - Floating Systems	CG	Commissioning
	HS	Health & Safety
	HU	Hull
	IN	Installation
	KM	Knowledge Mgmt
	MA	Marine Assurance
	MS	Mooring System
	NA	Naval Architecture
	QA	QA/QC
	WE	Weight & Stability
75 - Drilling & Completion	CE	Completion Systems
	CG	Commissioning
	DO	Drilling Operations
	DR	Drilling Systems
	HS	Health & Safety
	KM	Knowledge Mgmt
	PM	Project Management
	QA	QA/QC
	RO	ROV System
	SC	Structure
90 - Subsurface	FD	Fluid Data
	GL	Geology
	GP	Geophysics
	KM	Knowledge Mgmt
	MD	Multi-Discipline
	PE	Production Engineering
	PP	Petrophysics
	QA	QA/QC
	RD	Rock Data
	RE	Reservoir Engineering
95 - Commercial	FN	Financial
	KM	Knowledge Mgmt
	PU	Purchasing

APPENDIX C

'PROJECTS' Document Class (Technical)
BD - Block Diagram
BE - Bid and Bid Evaluation and Proposal and Quotation
BM - Bill of Materials
CA – Calculation
CC - ABS Compliance Certification
CP - Cathodic Protection Drawing
DB - Data Book
DC - Design Criteria
DD - Detail Drawing
DI - Duct Instrument Diagram
DR - Data Requirement
DS - Data Sheet
DV – DVD and Video
EM - Email
FC - Forecast
FM – Form
GA - General Arrangement Drawing
HA - Hazardous Area Classification Drawing
HP - HIPPS
HU - Hookup Drawing
IS - Isometric Drawing
LD - Layout Drawing
LI - List and Index and Register
LO - Loop Diagram
LP - Location Plan Drawing
MA - Manuals
MO – Model Output
PC - Pump Curves and Performance Data
PD - Piping Instrument Diagram
PE - Permit
PF - Process Flow Diagram
PH - Photos
PI - Pipeline Layout Drawing
PK - Deliverable Package
PL - PLC Program
PN - Process and Instrument Diagram
PP - Plot Plan Drawing
PR - Procedure and Plan
PS - Process Safety Flow Diagram
PT - Presentation
QY - Query
RP - Engr Task and Philosophy and Report and Study
RQ - Requisition
SC - Schedule
SD - Schematic Diagram

'PROJECTS' Document Class (Technical) Continued
SK - Sketch
SL - Single Line Diagram
SP - Specification
ST - Studies
SW - Scope of Work
TC - Technical Document Comments
TD - Termination Drawing
TE - Template
TS – Test Records and Certificates
UF - Utility Flow Diagram
WD - Wiring Diagram

CORRESPONDENCE' Document Class (Non-Technical)
AP - Application
AU – Authorization
BR – Brochure
CO - Change Order
CT - Cost Tracking and Estimating and Cost Reports
EM – Email
FC - Forecast
FM – Forms
FX – Faxes
LE - Letter
LI - Lists and Index and Registers
ME – Memo
MM - Meeting Minutes
OR - Organization Chart
PH – Photos
PO - Purchase Order and Contracts
PR - Procedures and Plans
PT – Presentations
QU - Questionnaire and Survey
RP – Report
SC – Schedule
TE - Template
TR - Transmittal
WO - Work Order Release

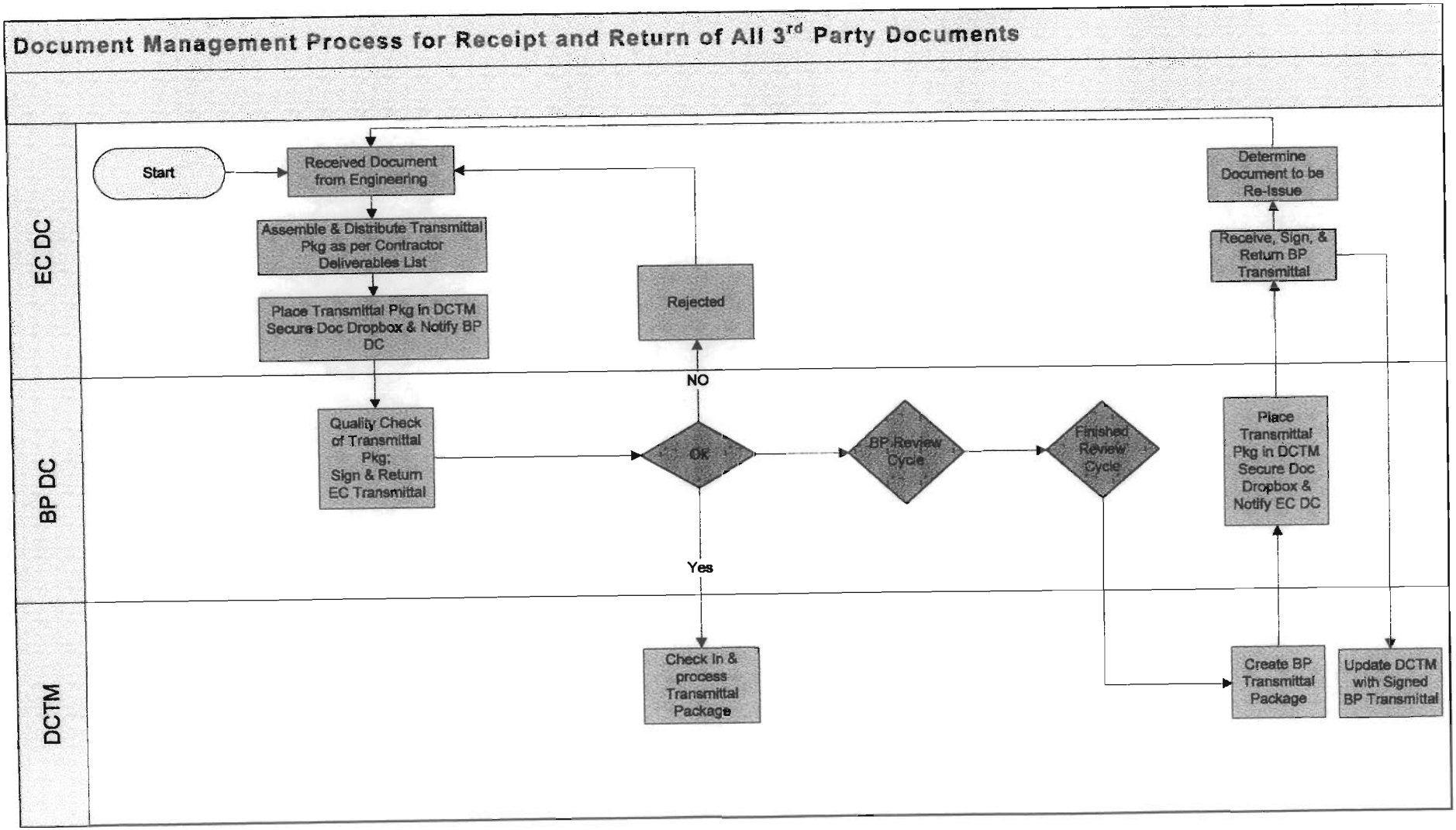
APPENDIX D

REFERENCED DOCUMENTS

BP Document No.	(Contractor) Document No.	Title

APPENDIX E

Receipt and Return of Contractor Documents Flow Diagram



Case 4:09-cv-01193 Document 345-5 Filed in TXSD on 04/04/12 Page 81 of 99

APPENDIX F

Example

Contractor Name
123 Any Street
Houston, Texas 77079
Tel: (713) 555-1234
Fax: (713) 555-2345
Email:

TECHNICAL DOCUMENT TRANSMITTAL

Date: 22-July-2005

Contractor Transmittal No.: XXXXXXXXXXXXXX

TO: BP GoM Deepwater Production
Document Control (DWP Proj ID)
501 Westlake Park Blvd, WL3 Room 1893
Houston, Texas 77079

Attention: Patty Sanchez

Re: Client: BP
Project: (DWP Project Name)

Subject: **Production Riser Tensioner Specification**

We are sending the document(s) listed below as:

IFA	**Issued for Approval**

Notes:
"Confidential Work Product"

No of Copies						
FS	FSR	SD	Other	**BP Document Number**	**Rev**	**Title**
0	0	0	1	(DWP Proj ID)-XX-XX-XX-XXXXXX	A	Production Riser Tensioner Specification

Sincerely Yours,

John Q. Smith, P.E.
Project Manager

Distribution

Seinfeld, Jerry (email)
Costanza, George (email)
Benes, Elaine (email)
Kramer, Cosmo (email)

Case 4:09-cv-01193 Document 345-5 Filed in TXSD on 04/04/12 Page 83 of 99

APPENDIX G

Example

Contractor Name
123 Any Street
Houston, Texas 77079
Tel: (713) 555-1234
Fax: (713) 555-2345
Email:

CORRESPONDENCE DOCUMENT TRANSMITTAL

Date: 22-July-2005

Contractor Transmittal No.: XXXXXXXXXXXXXXX

TO: BP GoM Deepwater Production
Document Control (DWP Proj ID)
501 Westlake Park Blvd, WL3 Room 1893
Houston, Texas 77079

Attention: Patty Sanchez

Re: Client: BP
Project: (DWP Project Name)

Subject: **Well Systems Project Meeting**

We are sending the document(s) listed below as:

IFI	**Issued for Information**

Notes:
This email was sent on 21-July to Internal Distribution

No of Copies						
FS	FSR	SD	Other	**Document Number**	**Rev**	**Title**
0	0	0	1	XXXXXXXXXXXXXXX	N/A	Well Systems Project Meeting: Minutes of Meeting 20-July-2005

Sincerely Yours,

John Q. Smith, P.E.
Project Manager

Distribution

Gellar, Ross (email)
Bing, Chandler (email)
Green, Rachel (email)
Gellar, Monica (email)
Buffay, Phoebe (email)
Tribbiani, Joey (email)

APPENDIX H

Example

Contractor Name
123 Any Street
Houston, Texas 77079
Tel: (713) 555-1234
Fax: (713) 555-2345
Email:

VENDOR DOCUMENT TRANSMITTAL

Date: 22-July-2005

Transmittal No.: XXXXXXXXXXXXXXXX

TO: BP GoM Deepwater Production
Document Control (DWP Proj ID)
501 Westlake Park Blvd, WL3 Room 1893
Houston, Texas 77079

Attention: Patty Sanchez

Re: Client: BP
Project: (DWP Project Name)

VENDOR: Vendor Name
Vendor Address
Vendor Address
Attn: Name

Package: 1029
PO: XXXX-406.0-004-A
SO: 97264
Client PO: (DWP Proj ID)-20-PU-PO-XXXXXX-A

We are sending the document(s) listed below as:

IFA	**Issued for Approval**

Remarks:
Please note the addition of PSLL-4740-C to the instrument air header.
This is an internal transmittal only

* All changes or additions must be reflected in a revision block or drawing number by an appropriate revision. All changes to be clouded.

Qty	Vendor Dwg / Doc Number	Rev	Title	Applies to PO Item	Status
1	97264-15B	6	P&ID Duct Burner Section		1
1	97264-15C	6	Flame Relay Wiring Diagrams		1

Sincerely Yours,

John Q. Smith, P.E.
Project Manager

Distribution

Simpson, Homer (email)
Burns, Montgomery C. (email)

Smithers, Wayland (email)

Flanders, Ned (email)
Nahasapemapetalon, Apu (email)
Wiggum, Ralph (email)

Status Codes

1. Manufacturer may proceed
2. Manufacturer may proceed. Revise then resubmit final documents
3. Manufacturer may proceed as noted. Revise and resubmit for review.
4. Not Correct – Revise and resubmit
5. Manufacturer may proceed. Review not required
6. For Information Only
7. Void

Case 4:09-cv-01193 Document 345-5 Filed in TXSD on 04/04/12 Page 85 of 99

Deepwater Production

BP Doc. No.: ssproj-10-PC-PR-000002

Deepwater Production> DWP Projects

Quick Reference Guide **Oct 2006 v 2.0**

Logging in from **within the BP network**

1. Go to: http://dwdocs.bpweb.bp.com.
2. Enter your **User Name** and **Password**.
3. Select **Deepwater Production** docbase.
4. Click **Login**.

Logging in from **outside of the BP network**

1. Go to: https://dwdocs.bp.com.
2. Enter your **User Name** and **Password**.
3. Select **Deepwater Production** docbase.
4. Click **Login**.

Terms and Icons in Documentum

Docbase - the top level in which information is stored i.e., Repository.

Cabinet - the highest level of organization in a docbase.

Home Cabinet/Users' Cabinet - your own area for storing personal items and files such as Saved Searches. It is not secure; others can see what is inside or display your files during a search. However, it can be made secure.

Folders - stored in cabinets and contain documents and other subfolders.

Auto-Number/Folder Example

DWP Projects
- nlct1 – Nile Carrot 1
  - 30 – Subsea Systems
    - TR – Trees
      - SP – Specification
        - nlct1-30-TR-SP-000001.doc

DWP Projects Cabinet:

Working Folder (Uncontrolled Area)

- All documents are auto-numbered
- A collaborative area
- All unapproved documents reside here
- All Projects team members will have "Version" permission

Project Files (Controlled Area)

- All approved documents reside here and are auto-filed based upon the required attributes
- Restricted area (Read Only)

Advanced Search

To find a document using an advanced search:

1. Choose **Advanced** in the top left corner.
2. **Locations:** (Optional) Click on the specific cabinet where you want to perform the search.
3. Select the document type from the **Object Type** menu e.g. **Project Document** or **Correspondence Document**.
4. In the first **Properties** dropdown list, choose an attribute that you would like to search by.
5. In the second dropdown list, choose an operator i.e., Begins With, Contains, etc.
6. In the third box, enter criteria (if a dropdown list is not available).
7. **Add Property:** Used to narrow your search (Steps 5, 6, & 7 apply).
8. Optional: Complete other Search criteria by clicking the appropriate checkboxes.
9. Click **Search**.
10. Click **Save Search** and then name the search. Searches can be launched from your Home Cabinet (where they are saved) or Advanced Search **Saved Searches** tab.

Simple Search functionality does exist

Importing a Document

To bring a copy of the document in the Working folder within the docbase:

1. Click on the Working folder. From the toolbar, click **File** and select **Import**.
2. Click **Add Files**.
3. Navigate to the file, highlight it and click **OK**.
4. Click **Next**. **"Type"** ***must*** be changed to **Project Document** or **Correspondence Document**. The **Name** and **Format** fields populate automatically.
5. Click **Next** and complete at least the required attributes (**Project, Sector, Discipline, and Document Class**).
6. At the bottom of screen, Click **Finish**

Auto-Numbering a Document

1. Upon completion of **Importing** or **Adding** a document (selecting the four required attributes) the document will be auto-numbered. (**Check In** of **Added** Document Is required)
2. The document number is a concatenation of these four attributes.
3. The document number will appear in the **Name** attribute field.

Checking Out a Document for Editing within the Working folder

To edit a document:

1. Check the box to the left of the document number.
2. From the DCTM toolbar, click **File> Edit**.
3. Edit the document as needed and **Save** changes & **Close** file. (Do not change the location or filename of the document.)

Document Promotion

Document ready to be promoted from lifecycle state '**Draft**' to '**In Review**' (within ***Working*** Area)

- From toolbar, Team member clicks on **Tools> Lifecycle> Promote**

Document ready to be promoted from lifecycle state '**In Review**' to '**Approved**'

- From toolbar, Document Controller clicks on **Tools> Lifecycle> Promote**

Document is **Autofiled** into ***Controlled*** area

Checking In a Document after Editing

To check in a document when you have finished editing it:

1. Check the box to the left of the document number.
2. From the toolbar, click **File> Check In**.
3. Change version as needed **Save As**.
4. Optional: Type desired text in the **Version Label** box.
5. Optional: Type desired text in the **Description** box.
6. Verify the **File Format** from the dropdown menu.
7. When required, modify other attribute fields.
8. Click **OK**.

NOTE: If **Title** has changed, you must complete **Check In** and go back into Properties table to modify.

Canceling Checkout

1. Check the box to the left of the document number.
2. From the toolbar, click **File> Cancel Checkout**.
3. Click **OK**.

Using Versions

To view all existing versions of a file:

1. Check the box to the left of the document number.
2. From the toolbar, click **View> Versions**.
3. To view a particular version, click on the version '**Name**'.

Ex: CURRENT 2.0
1.1
1.0

Customizing the Interface

1. Click **Preferences** in the top right corner of the screen.
2. Choose between the **Classic** (like Windows Explorer) and **Streamline** (like an Internet web page) views.
3. Choose a section of the docbase to start in every time you log in.
4. Choose the **Theme** (color and style) of the interface.
5. Click **OK** to save changes.

Getting Help and Training

Helpdesk	Open an iHelp ticket. Go to: **http://ihelp.bpweb.bp.com**. 1. Click on MyServiceCentre.bpglobal.com. 2. Click **Create a Ticket for Yourself**. 3. Click on ihelpappticket.bpweb.bp.com 4. Confirm that your profile is correct. 5. **Step 1:** Choose **Software**. 6. **Step 2:** Choose **Documentum Houston Server**. 7. **Step 3:** Choose an appropriate detail. 8. **Step 4:** Add text to clarify the nature of your problem. 9. Skip Step 5 and click **Submit Ticket**. 10. **Step 6:** Complete the displayed form. 11. **Step 7:** Click **Submit Ticket.** If you can't access the website, call **281 366 4444** or **800 660 3949** to get your issue resolved.
Training	**Contact DWP Projects Document Controller 281-366-1552**

Deepwater Docs

Quickflow - Quick Reference Guide

Projects Version
Jul 2008, V 3.0

BP Doc. No.: ssproj-10-PC-PR-000005

Quickflow – DCTM Electronic Review Cycle

- One document per Quickflow
- Set up – Sequential or Parallel
- Date sensitive (if for review) 'Due Out of Review' date
- System generated Email Notifications

System Generated Quickflow Email Notifications

The following information is on a Quickflow Notification:

- **Document number; Title; Revision Number; Date Initiated; Due Out of Review Date; List of Reviewers; Quickflow Initiator; Task Screen link**

Email Subject field - Examples:

REVIEW – for Reviewers and Approvers:
!! REVIEW: Document Number: 'nlct1-30-UM-PR-000001' Title: 'Handling and Storage Procedure' needs to be 'reviewed' 'by' 11/19/2007 00:00:00

NOTIFICATION – Receipt, Issued for Information, or Returned:
!! NOTIFICATION: Document Number: 'nlct1-30-UM-PR-000001' Title: 'Handling and Storage Procedure'

Logging in

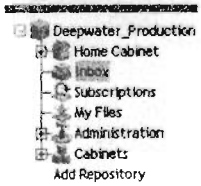
You can access your DCTM **Quickflow** task by performing the following steps:

1. Within the system generated email notification, click on first link (**Task** screen)

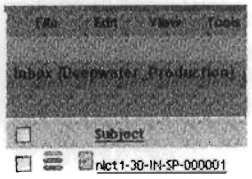
```
You have a TASK in your "DCTM" Inbox, which needs your
review by 'nulldate'

To access the TASK, please click on the link below.

For users within the BP network

(http://dwdocs.bpweb.bp.com/deepwater/dr1.html?objectId=
1b00a88280172075)

For users outside the BP network

(https://dwdocs.bp.com/deepwater/dr1.html?objectId=
1b00a88280172075)
```

2. DCTM will open to the **Login** screen, after login, the **Inbox** screen will appear and then the **Task** screen will open, automatically

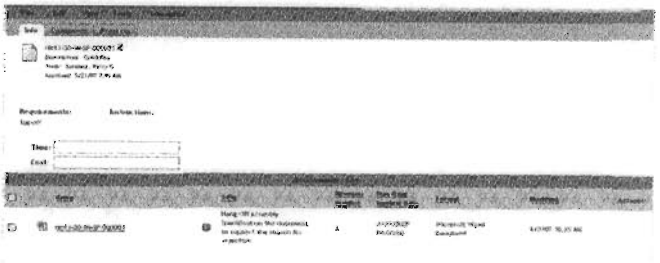
Browser Tree



DCTM Inbox



Task Screen



Checking Out a Document for Editing

1. Within the **Task** screen, check the box to the left of the document number.
2. In the Quick Action toolbar, click **File** and select **Edit**.
3. Edit the document as needed and save changes. Do not change the location or filename of the document.

Note 1: EDIT will open, lock, and save a copy of the document to the user's C:\Documents and Settings\ (user's name folder)\Documentum\Checkout folder.
Note 2: After checking in the document, the system will remove it from the user's C:\location.

DCTM Rule:
A document can be checked out by ONLY one user at a time

Below are the symbols next to the document number identifying if a document has been checked out

	A **key** means that you have checked out the document. No one else can edit it; however, users can view or export it the Current Version.
	A **lock** means that another user has checked out the document. You can only view the document's Current Version. Click the Properties icon ❶ to the right of the document title, click on the Info tab to see who the lock owner is.

Checking In a Document after Editing

1. Within the **Task** screen, check the box to the left of the document number.
2. In the Quick Action toolbar, click **File** and select **Check In**.
3. Version number will default to minor version (ex: Save As: ◉ 1.1 (minor version).

In the **Version Label** field type (your name) plus "w/ Comments".

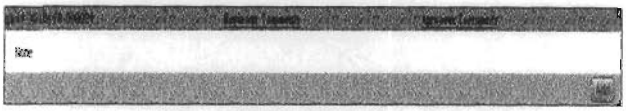
Canceling Check Out (If no comments added)

1. Check the box to the left of the document number.
1. In the Quick Action toolbar, click **File** and select **Cancel Checkout**.
2. Click **OK**

Quickflow Comments Box

NOTE: Comments box is for dialogue only.

- **Reviewer Comments link**
- **Approver Comments link**



Document Reviewer's Comments:

1. Within the document's **Task** screen, click on the **Comments** tab
2. In the **Comments** box, click on '**Reviewer Comments**' link
3. **Comments** box will open, add comments.

NOTE: If comments were not added to document, type in Comment box, 'No Comments'

1. When finished, click **OK**

Note 1: Once added, comments can be edited and or removed from box by comments author

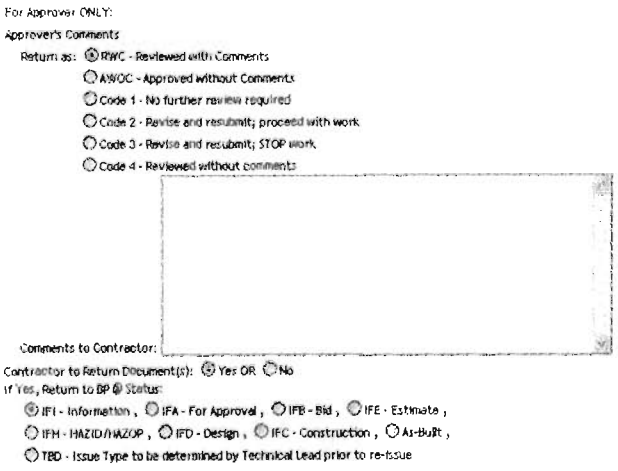
Note 2: Comments are accumulated after each user finishes their Quickflow

Document Approver's Comments:

AFTER reviewing all comments, if any and returning to the DCTM **Inbox> Task** screen

2. Click on the **Comments** tab
3. Click on **Approver Comments** link, **Comment** screen will open

(**NOTE**: Comments related to document, need to appear on the document)



Document Approver's Comments (Cont'd):

1. Indicate the **Return Status**:

- (•) RWC - Reviewed with Comments
- ( ) AWOC - Approved without Comments
- ( ) Code 1 - No further review required
- ( ) Code 2 - Revise and resubmit; proceed with work
- ( ) Code 3 - Revise and resubmit; STOP work
- ( ) Code 4 - Reviewed without comments

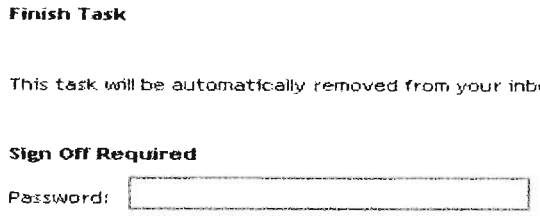
NOTE: ONLY Return Code Statuses are being used for return of third party documents. (RWC and AWOC are no longer being used)

4. **COMMENTS TO CONTRACTOR** - Dialogue Comments box
5. **Contractor to Return Document(s) :** (•) Yes OR ( ) No
6. **IF YES, RETURN TO BP @ STATUS (SELECT ONE):**

(•) IFI - Information , ( ) IFA - For Approval , ( ) IFB - Bid , ( ) IFE - Estimate ,
( ) IFH - HAZID/HAZOP , ( ) IFD - Design , ( ) IFC - Construction , ( ) As-Built ,
( ) TBD - Issue Type to be determined by Technical Lead prior to re-issue

Finish Quickflow (for Reviewers and Approvers):

1. Within **Task** screen, click on **Finish** button
2. The **Finish** screen will appear, enter your BP password into the **Sign Off Required** field



3. Click on **OK**. The document link within your DCTM Inbox will be removed

NOTE: If document is stilled Checked Out / locked; After clicking on Finish button, a warning screen will appear

Document is still Checked Out / Locked. Return to your Quickflow Task screen to Check In or Cancel Check Out of document prior to Finishing your Quickflow.

Deepwater Docs Usage & Training Questions

For questions about training or the use of Deepwater Docs as well as questions on project specific processes and documents, please contact Patty Sanchez, x61552; Sherlene Moore, x68767; and Linda Gibson, x63989.

DWP Projects Document Control central email Address:

DWP Projects DC (dwpprojectsdc@bp.com)

E-mail 8 of 61

Unknown

From: Duff, Barry C [Barry.Duff@bp.com]
Sent: Thursday, September 11, 2008 7:33 AM
To: Naseman, Bill E
Cc: william.broman@bp.com; Smit, Dirk; Abbott, Ken (SWIFT); Ken Abbott (Home)
Subject: FW: Documentum - Updated Attribute Field Dropdown Lists
Attachments: DCTM DWP Projects Attribute Dropdown Lists.doc

Bill,

This is a follow-up to the attributes discussion. Attached is the attributes list that the subsea projects is using. As you will note, the route the subsea group has taken is to use unique acronyms to identify projects instead of a unique number.

That could be done for Atlantis subsea, (e.g., DC-1, SS-1, SS-2, DC-3 etc) and topsides projects, however it would require someone to maintain a 'library' of these codes. Just like the number scheme, it will require a list to be published periodically and someone will need to maintain the master list.

Barry

<<DCTM DWP Projects Attribute Dropdown Lists.doc>>

From: Sanchez, Patty G

Sent: Tuesday, September 09, 2008 2:27 PM

To: Angel, Christopher E.; Austin, Rashod; Berry, Parker; Bogan, Catherine P; Boles, Julie; Boyle, John J; Campbell, Fiona; Castrillon, Maritza; Christopher, Scott T; Comin, Decio; Conner, Monte; Craig, David A; Davis, Brian E; Davis, Jonathan P.; Dootson, Ian; Duff, Barry C; East, Rocky J; Elder, Julie A; Fraser, Jason; Abdel Hamid, Khaled; Algbedion, Amara; Aurich, Chris; Breaux, Beau; Chan, Roy; Eben, Arnold; Hale, Sean; Janzen, Eric; Kerley, Joshua; Koepke, Steve D; Oza, Nita; Reeves, Harold J; Gillani, Taffi; Gonzales, Sheryl J.; Greene, Walter S (Wally); Gulgowski, Paul; Hartman, Dena; Herricks, Benjamin J; Herrold, Matthew; Hiarker, Debra S; Imm, Gary R; Inarsoyo, Teguh T; Iwere, Victoria; Johnston, Alistair P; Jorgenson, Brad P; Kelley, Merrick M; Knerr, Ed; Krasin, Melanie; Lawson, Christa L.; Lindsey, John M; Macon, Richard; Maguire, Niall J; Marshall, Rob R; Montesinos, Marco (Thunder Horse); Naeger, Robert J; Norton, Seth; Patterson, Randall; Pfaffenberger, Lynn C; Phan, Kim; Philips, Thomas; Raymer, Steve; Sauer, Steve R; Schultz, Eric; Tippetts, Brad; Vandenbossche, Michael P; Ward, Michael; Wu, Heather; Yuvancic, Jim A; Alejos, Oscar (Honeywell); Bangash, Yasser K (JP KENNY INC); Bibbs, Marland (Turner & Townsend); Burge, Brian (LINK PROJECT SERVICES); Burkholder, Wayne B. (Contractor); Calhoun, Brian (Contractor); Cross, Chris; Cushman, Michael J (Cushman & Associates Inc.); Davis, Kevin (CH2M Hill); Diaz-ganaim, Rafael D (JP KENNY INC); Dougherty, Travis (JP KENNY INC); Ellis, Gary G (SWIFT TECHNICAL SERVICES); Berger, Ron K (Manatee); Dale, Geoff (JP Kenny); Partridge, Stuart D (Manatee); Raymond, Patrick J (JP KENNY INC); VanDyke, Mark (Oceaneering); Garrett, Michael; Gilbert, David R (MAGELLAN MARINE); Goetz, Jeff P (PathCon); Gore, John (JP Kenny); Gray, Rosana (JP KENNY INC); Gullion, Steve D (Clover Staffing); Hay, Donald H; Hefren, Fred A (JP KENNY INC); Hudson, Adam D; Jakl, Sandra G. (J P Kenny); Johnson, Jennifer N (QEDI); Lange, Steven S (JP KENNY INC); Lindsey, Marlin; Ly, Khanh K (Manatee, Inc); Lynch, Trey (JP KENNY INC); Macaulay, Ken (JP Kenny); Mansour, Guy (JP KENNY INC); McCrary, Martin (JP Kenny); Mcqueen, Mark (JP KENNY INC); Miklaszewicz, Robert (Clover); Morrison, Stuart (SWIFT); Mouret, Eddie (J P KENNY INC.); Muenker, Jeffrey (JP KENNY INC); Myers, Larry (Team Mgmt); Nguyen, Bao H. (JP Kenny); Park, Tae (OPE INC); Parker, Janel; Pickard, Bob (DTC INTERNATIONAL); Prince, Stella J (Team Mgmt); Redding, Craig D (JP Kenny); Richmond, Brian E (NES OVERSEAS USA LLC); Sanchez, Mayra (JPKenny); Sanderson, David J (Technip); Shields, George (DTC International); Skidmore, Ross R (SWIFT TECHNICAL SERVICES); Smith, Kevin L (Westney); Thompson, Torrey F (HONEYWELL INC); Valot, Wendy C (Turner & Townsend Energy); Wang, Xuegeng (JP KENNY INC); Watson, Aaron (LINK PROJECT SERVICES); Wells, Hal C; Wilburn, Jeff; Marciniec, Matt; Mundorff, Jan; Roberson, Mark B; Siegmund, Mark A.; Turner, Dave; Williams, Michael R; Young, Brian J

Cc: DWP Projects DC

Subject: Documentum - Updated Attribute Field Dropdown Lists

Attached is a hyperlink to the current version of the DWP Projects Attribute Dropdown List. Attribute fields included in this document are Project, Sector, Discipline, Document Class, etc. This list reflects the available selections in the Object Types of projects_document and correspondence_documents.

DCTM DWP Projects Attribute Dropdown List (Location: Documentum Deepwater Production> DWP Projects> Support> DWP Projects Attributes folder)

http://dwdocs.bpweb.bp.com/deepwater/drl/objectId/0900a882800e7c83

Patty G. Sanchez
Senior Document Controller
501 Westlake Park Blvd.
WL 4 588
GoM DWP Projects
Houston, Texas 77079-2696

Phone: 281.366.1552
Fax: 281.366.7557

DWP Projects Documentum
Attribute Dropdown Lists

Active - PROJECTS	
ID	**NAME**
1410	Thunder Horse – Used by Subsea Operations
1420	Holstein – Used by Subsea Operations
1430	Mad Dog – Used by Subsea Operations
1440	Atlantis – Used by Subsea Operations
doss1	Dorado Subsea 1
gobl1	GoM Major Offshore Risk Assessment Project
ISAB1	Isabela
kgsc1	King SCR Coating Defect Project
kgss2	King South Well Development & Tieback near King D6 Well
MC127	Horn Mountain – Used by Subsea Operations
MC747	NaKika – Used by Subsea Operations
MC764	MC764
POET3	LLOG MC72 Tieback to Pompano
ssgs1	Subsea Global Standardization
ssproj	Subsea and Projects
ssst1	Subsea Standardization 1
VK915	Marlin - Used by Subsea Operations
VK989	Pompano - Used by Subsea Operations
xhpht	Extreme High Pressure High Temperature

Completed or Inactive - PROJECTs	
ID	**NAME**
enss1	Entrada Subsea Development Project
hlbl1	Holstein Blast Modification Project
hlpw1	Holstein Long Term Produced Water Treatment
hlwa1	Holstein H2
hmbl1	Horn Mountain Blast – Control Room
hmfa1	Horn Mountain Flow Assurance Project
hmfj1	Horn Mountain Flexjoint Repair 1
hmnw1	Horn Mountain NW Field Ext 1
hmpo1	Horn Mountain POB Increase
kgci1	King Chemical Injection System Field Trial
ksp1	King Subsea Pump 1
mabl1	Marlin Blast – Select
mafa1	Marlin Flow Assurance Project
mas12	Marlin Subsea 1 Sidetrack 2
mdbl1	Mad Dog Blast Modification Project
mdsw1	Mad Dog Southwest Ridge 1
nkfa1	NaKika Flow Assurance Project
nkph2	NaKika Phase 2
nkur1	NaKika Umbilicals Replacement 1
pobl1	PJV Blast – Execute Phase 1
pobl2	Pompano Blast – Select Engineering
poet1	Walter MC 161 Tieback
poet2	Pompano Expansion & Area Tiebacks
xhpht	Extreme High Pressure High Temperature

DWP Projects Documentum
Attribute Dropdown Lists

Sector		Discipline/Sub-Sector
10 - General Project	AD	Administration
	CG	Commissioning
	HS	Health & Safety
	IF	Interface
	IM	Integrity Mgmt
	KM	Knowledge Mgmt
	PC	Project Controls
	PM	Project Mgmt
	PR	Partner
	QA	QA/QC
15 - Regulatory	KM	Knowledge Mgmt
	QA	QA/QC
	RG	Regulatory
20 - Topsides	AR	Architectural
	CG	Commissioning
	CO	Construction
	EL	Electrical
	GE	General
	HS	Health & Safety
	IC	Instrument & Controls
	KM	Knowledge Mgmt
	ME	Mechanical
	PI	Piping
	PS	Process
	QA	QA/QC
	ST	Structural
30 - Subsea Systems	CG	Commissioning
	CT	Controls-Production
	CW	Controls-Workover
	FA	Flow Assurance
	FL	Flowlines
	FX	Flexible
	HP	HIPPS
	HS	Health & Safety
	IN	Installation
	JU	Jumpers
	KM	Knowledge Mgmt
	MN	Manifolds
	MW	Material & Corrosion
	PL	Pipeline
	QA	QA/QC
	RH	Running Tools
	RI	Risers
	RO	ROV System
	RW	Riser-Workover
	SB	Subsea General
	SI	System Integration Test
	SP	Subsea Processing
	TR	Trees
	UM	Umbilicals
	WL	Wellheads

Sector		Discipline/Sub-Sector
40 - Wells Systems	JU	Jumpers
	KM	Knowledge Mgmt
	PD	Production Risers
	PJ	Production Jumpers
	PT	Production Riser Tensioners
	QA	QA/QC
	RI	Risers
	SJ	Specialty Joints
	SR	Surface Trees
	SW	Subsea Wellheads
	UM	Umbilicals
50 - Floating Systems	CG	Commissioning
	HS	Health & Safety
	HU	Hull
	IN	Installation
	KM	Knowledge Mgmt
	MA	Marine Assurance
	MS	Mooring System
	NA	Naval Architecture
	QA	QA/QC
	WE	Weight & Stability
75 - Drilling & Completion	CE	Completion Systems
	CG	Commissioning
	DO	Drilling Operations
	DR	Drilling Systems
	HS	Health & Safety
	KM	Knowledge Mgmt
	PM	Project Management
	QA	QA/QC
	RO	ROV System
	SC	Structure
90 - Subsurface	FD	Fluid Data
	GL	Geology
	GP	Geophysics
	KM	Knowledge Mgmt
	MD	Multi-Discipline
	PE	Production Engineering
	PP	Petrophysics
	QA	QA/QC
	RD	Rock Data
	RE	Reservoir Engineering
95 - Commercial	FN	Financial
	KM	Knowledge Mgmt
	PU	Purchasing

DWP Projects Documentum
Attribute Dropdown Lists

'PROJECTS' Document Class (Technical)
BD - Block Diagram
BE - Bid and Bid Evaluation and Proposal and Quotation
BM - Bill of Materials
CA – Calculation
CC - ABS Compliance Certification
CP - Cathodic Protection Drawing
DB - Data Book
DC - Design Criteria
DD - Detail Drawing
DI - Duct Instrument Diagram
DR - Data Requirement
DS - Data Sheet
DV – DVD and Video
EM - Email
FC - Forecast
FM – Form
GA - General Arrangement Drawing
HA - Hazardous Area Classification Drawing
HP - HIPPS
HU - Hookup Drawing
IS - Isometric Drawing
LD - Layout Drawing
LI - List and Index and Register
LO - Loop Diagram
LP - Location Plan Drawing
MA - Manuals
MO – Model Output
PC - Pump Curves and Performance Data
PD - Piping Instrument Diagram
PE - Permit
PF - Process Flow Diagram
PH - Photos
PI - Pipeline Layout Drawing
PK - Deliverable Package
PL - PLC Program
PN - Process and Instrument Diagram
PP - Plot Plan Drawing
PR - Procedure and Plan
PS - Process Safety Flow Diagram
PT - Presentation
QY - Query
RP - Engr Task and Philosophy and Report and Study
RQ - Requisition
SC - Schedule
SD - Schematic Diagram

'PROJECTS' Document Class (Technical) Continued
SK - Sketch
SL - Single Line Diagram
SP - Specification
ST - Studies
SW - Scope of Work
TC - Technical Document Comments
TD - Termination Drawing
TE - Template
TS – Test Records and Certificates
UF - Utility Flow Diagram
WD - Wiring Diagram

CORRESPONDENCE' Document Class (Non-Technical)
AP - Application
AU – Authorization
BR – Brochure
CO - Change Order
CT - Cost Tracking and Estimating and Cost Reports
EM – Email
FC - Forecast
FM – Forms
FX – Faxes
LE - Letter
LI - Lists and Index and Registers
ME – Memo
MM - Meeting Minutes
OR - Organization Chart
PH – Photos
PO - Purchase Order and Contracts
PR - Procedures and Plans
PT – Presentations
QU - Questionnaire and Survey
RP – Report
SC – Schedule
TE - Template
TR - Transmittal
WO - Work Order Release

DWP Projects Documentum
Attribute Dropdown Lists

Supplier Name (1 of 4)
2H
ABB Lummus Global
ABB Vetco Gray
ABS
Aker Kvaerner
Aker Maritime
Aker Solutions
Alliance Engineering
ALSTOM (Switzerland) Ltd
ASCO
ASGM Engineering
ASI Robicon Ltd
ASTM International
Atkins
Bacharach and Wood
Baker Engineering and Risk Consultants
BHP Billiton Petroleum Inc
Boldbrink
Boreas
Bredero Shaw
BP
Brann & Luebbe
C&C Technologies
Cameron
Canyon
Clover Corporate Staffing
Coflexip
Compagnie-Deutsch
Daewoo
DES
Detail Design, Inc.
DIA
DNV
Drill Quip
DTI DiversiTech
Duco
FMC
Framo
GeoCentury
Geoscience Earth & Marine Services
Goulds Pump
GVA Consultants
Hans Padron
Heerema
Honeywell
Hydro Tech

Supplier Name – Cont'd (2 of 4)
IEC
Ingen
Intec
Intermoor Inc
J P Kenny
JDR
JIP
KOS Kiewit Offshore Services LTD
London
McDermott
MCS
Mentor Subsea Technology Services
MMS
MSI
Multiflex
Mustang Engineering, Inc.
National Coupling
Neiwit
Nexans
Ocean Design, Inc.
Oceaneering
Offshore System
Oil States
Paragon Engineering
Path Consulting
PATHCON
Pegasus International
Pencor
Pinnacle Engineering
Powell Industries
Pride Offshore
Radoil, Inc.
Risktec Solutions Inc.
RTI
Saipem
Sandvik
Schlumberger/Sensa
Seatrax
Shell Exploration & Production
Siemens

DWP Projects Documentum
Attribute Dropdown Lists

Supplier Name – Cont'd (3 of 4)
SMI
Sonsub
Sperry
Stress Engineering
Subsea 7
Sumitomo
Swain & Associates
Technip
Tronic
U S Coast Guard
Union
V & M
Vector International
Versabar
Vetco Gray
W. H. Linder
Weatherford
Wellstream

Supplier Name – Cont'd (4 of 4)

DWP Projects Documentum
Attribute Dropdown Lists

Project Assurance Activity
1st Year Operability Review
Agreed KIPs (Key Performance Indicators)
Application of ETPs Embedded & Approved
Appraisal Plan
Appraisal Review
Approved RAM (Reserve Assurance Menorandum)
Approved RSP (Reserve Support Package)
Approved Surveillance Plan
Architectural Reviews
BRISK Workshop
Basis of Design Completions – Preliminary
Basis of Design Frozen
Basis of Design Project – Preliminary
BtB
Benchmarking / Analogs (Subsurface)
Benchmarking / IPA
CI (Complexity Index)
Commission / Startup Plan
Commissioning & Start-Up Logic Philosphy - Outline
Commissioning Plan Approved
Completions Design Peer Review
Completions Technical Limits Session
Completions Uncertainty Statement (DCUS) – Preliminary
Compliance for Integrity Management Issues Confirmed
Constructability / Operability / Maintenance Reviews
Contracting / Procurement Strategy
Controls / Umbilical Peer Assist
Cost Estimating Methodology Consistent w/ WBS/GIAAP
Cost Management Plan
Cost /Schedule Assessment
CVP Gate Review
D&C Excellence Assessment
DSP – Appraise
DSP – Select
Dashboard
Decision Support Package
Define Data into eProjects
Define FM
Depletion Plan
Design Basis Document
Design Codes and Standards Agreed with EA
Development Options Report
Discipline Reviews
Drilling & Completions Uncertainty Study (DCUS)
ESIA (Environmental & Social Impact Assessment) – Draft

Project Assurance Activity (cont.)
ESIA Complete
Economic Assessment Complete
End of Well Review
Execute FM
End of Well Review
Exit Strategy
FA & Production Chemistry Peer Review
FAT – Factory Acceptance Test
FEL AFE (Front End Loading Authorization for Expenditure)
FEL Assessment
FEL Assessment Using RMI
Final Project Cost Estimate
Finalize Project Design
Flow Assurance Peer Assist
Flow Assurance Report
Flowline / Riser Peer Assist
Fuel Gas &se & other Losses Indentified
Fully Defined Logistics Plan
Geohazards Assessment
HAZIDS
HAZOPS
HCIIP Definition (Low, Reference, High)
HSSE Management Plan
HSSE Management Plan w/Emergency Response Plan
Hazard Risk Assessment
HoD Reviews
HSSE Management Plan
Identify SIMOPS (Construction, Completion, Operations)
Information & Document Management
Integrity Management
Integrety Management Plan – Preliminary
Interface Management Plan
Interface Management Plan – Draft
Joint Operating Agreement Participation
Key Performance Indicators (KPIs) Agreed
Knowledge Management Plan
Knowledge Management Plan – Preliminary
Legal, Tax, Finance, Currency & Marketing Issues Indentified
Level 3 Project Schedule
Life of Field Surveillance Plan
Life of Field Well Intervention Plan

CVP Stage

DWP Projects Documentum
Attribute Dropdown Lists

Project Assurance Activity (cont.)
Life of Well Management Strategy
MPCP (Major Projects Common Process)
Major Equipment Specs Prepared & Bids Obtained
Management of Change (MOC) Process Confirmed
Materials Management Plan in Place
Materials Management Program
Mid-Term Review
New Technologies Developed & Tial Complete
No Surprises Assessment
No Wrecks Assessment
OVP (Operations Value Process) Self-Assessment Complete
Operability & Production Targets Set
Operability Efficiency – Preliminary
Operational Reviews
Operations Value Process (OVP) Assessment
Operations, Sparing, Maintenance & Logistics Philosophy
Ops Readiness Plan Review
OPS Resourcing Strategy
PHSSER
PHSSER Construction Conducted
PHSSER Define Stage
Peer Assist
Peer Review
Peer Review Action Item Register
Plan of Development
Pre-Qualification Plans for Major Contracts in Place
Process Safety Integrity Mgmt Strategy (PSIM)
Procurement & Contracting Strategy – Preliminary
Production Chemistry Report
Project Assurance Plan
Project Controls Activities Consistent with Guidelines
Project Execution Plan
Project Execution Plan – Preliminary
Project Information in eProjects
Project Quality Plan
Project Shutdown Requirements & Impact on Production Known
Project Statement of Requirements
Project Statement of Requirements (SOR) – Initial
Project Technology Plan – Preliminary
Quality Plan

Appraise
Select
Define
Execute
Operate

Project Assurance Activity (cont.)
RMI (Reservoir Management Index)
RSP (Reserve Support Package)
RTL (Reservoir Technical Limits)
RUSM (Reserve Uncertainty Statement Memorandum)
Regulatory Engagement Plan
Regulatory Schedule
Reliability Process
Requirements for Real-Time Surface Data
Reservoir Complexity Assessment
Reservoir Support Package
Reservoir Uncertainty Study (RUS)
Right Scoping Workshop
Risk & Opportunities Workshop
Risk Assessment – BRISK (Cost & Schedule)
Risk Management – MPCP
Risk Register & Management Plan – Revised
Risk Workshop – Alert, No Wrecks
SIT – System Integrated Test
Safe Work Plan
Simultaneous Operations Plan
Standardization Plan
Statement of Requirements
Subsea Architecture Peer Review
Surveillance Plan
TRAP – Technical Risk Assessment Process
TVP Reviews
Technical Limits
Technology Assessment
Topsides Peer Review
Transition Plan Developed
Tree Peer Assist
VIP Planning Session
Value Improving Practices (VIPS)

Exhibit “D” to Declaration of David L. Perry (Part 2 of 2) B

E-mail 9 of 61

Unknown

From: Abbott, Ken (SWIFT TECHNICAL SERVICES)
Sent: Monday, October 20, 2008 9:08 AM
To: Malone, Ryan P; McGregor, Douglas (Turner & Townsend)
Cc: Broman, William H(HOU)
Subject: Late Atlantis Subsea P&IDs

Attachments: DC1 SS1.PDF; DC3 Single Line.PDF; DC3 Dual Line.PDF; 3478-BSB-DC-1000-02 _REV-8-.pdf; 3478-BSB-DC-1034-01_rev-a.pdf; 3478-BSB-DC-1066-01-rev-B.pdf

DC1 SS1.PDF (98 KB) | DC3 Single Line.PDF (116 KB) | DC3 Dual Line.PDF (140 KB) | 3478-BSB-DC-1000-02_REV-8-.pdf... | 3478-BSB-DC-1034-01_rev-a.pdf ... | 3478-BSB-DC-1066-01-rev-B.pdf ...

Ryan, as per our discussion last week, I looked into the P&ID progress for DC-3 and attached is Malcolm's response.

I am concerned that we do not have Issued for Construction drawings at this point for wither the DC-1 or DC-3 projects, and no apparent schedule for their completion. One of the most risky traps for a project is to have fabrication and installation on-going and no approved, IFC P&ID's. This can result in changes that can cause major back charges by vendors.
I recommend that we meet with Malcolm and our schedulers and John Mack to verify the schedule and push for completion on an expedited basis...

-----Original Message-----
From: McVass@technip.com [mailto:McVass@technip.com]
Sent: Thursday, October 16, 2008 4:10 PM
To: Hui, Christopher; Berger, Ron K (Manatee); Whitehead, David K (Technip); Curtis, Tinikka (NES); Abbott, Ken (SWIFT TECHNICAL SERVICES); Malone, Ryan P; Mack, John G; Ray, Jim L (Manatee)
Cc: Haqqani, Hakeem (Technip); Velasquez, Roy (Technip)
Subject: Atlantis Subsea P&IDs

All,

We have had several questions regarding the status of P&IDs for the subsea facilities. With this in mind I have prepared the following schematics which list all P&IDs and try to show the relationships between them.

DC1 SS1:

This schematic shows all as-built P&IDs currently working their way through document control.

I hope to have all these drawings issued as final by the end of this month.
I have attached drawing 3478-BSB-DC-1000-02 which is a piping schematic of the DC1 facilities as currently installed.

DC3 Single Line:

This schematic shows the DC1 - SS1 as-built P&IDs plus the P&IDs that will be associated with the single line tie-in of DC3. The drawings specified in gray boxes are new drawings resulting from the single line tie-in.
These drawings are currently working their way through the system. The drawing in the yellow box is an as-built drawing (of MAN 1A) that will have to be revised when the single line tie-in is installed.

I have attached drawing 3478-BSB-DC-1066-01 which is a piping schematic of the DC1/DC3

single line tie-in facilities.

DC3 Dual Line:

This schematic shows the DC1 - SS1 as-built P&IDs plus the P&IDs that will be associated with the dual line tie-in of DC3. The drawings specified in gray boxes are new drawings resulting from the dual line tie-in. some of these drawings are currently working their way through the system, some have yet to be prepared. Again, the drawing in the yellow box is an as-built drawing (of MAN 3) that will have to be revised when the dual line tie-in is installed.

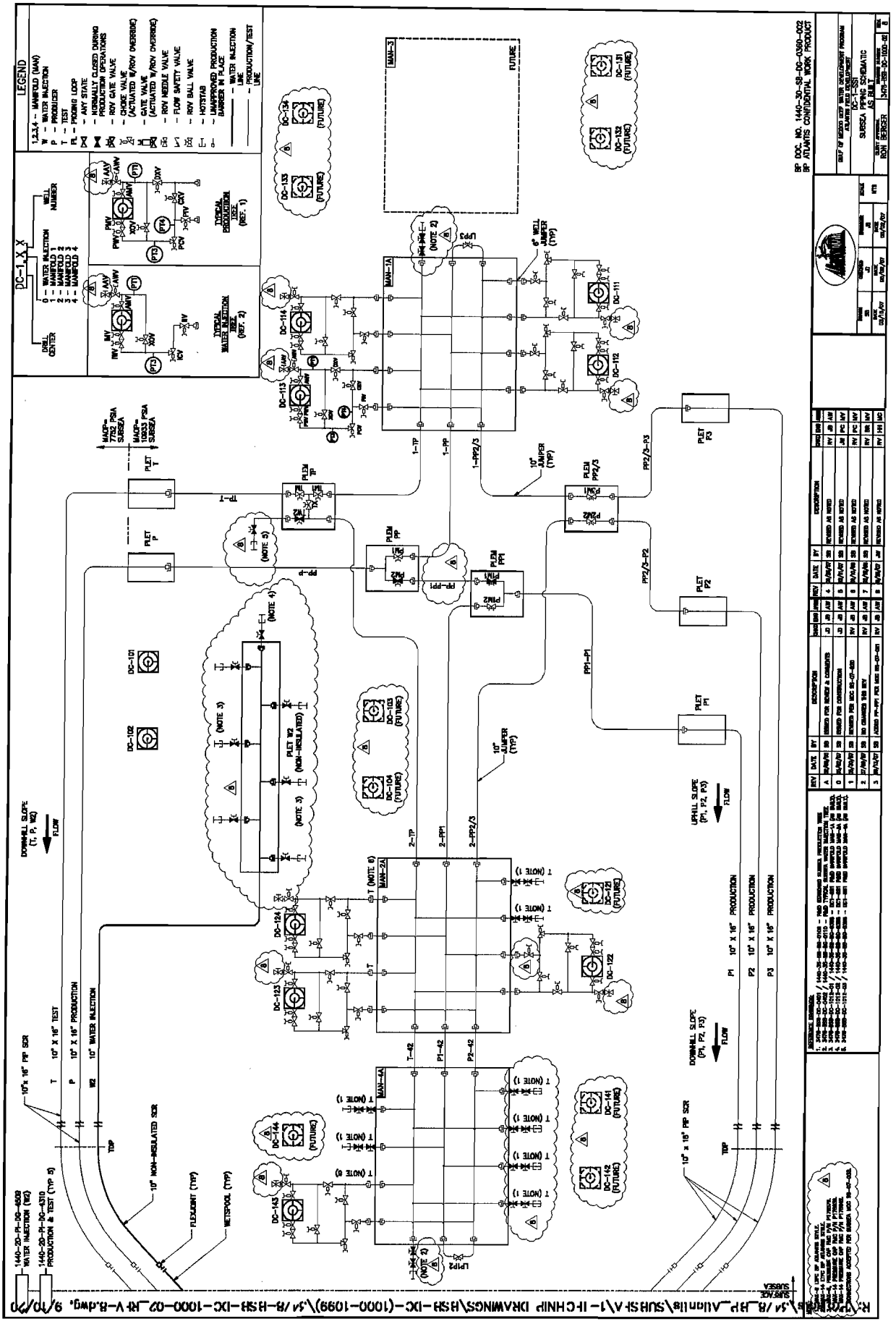
I have attached drawing 3478-BSB-DC-1034-01 which is a piping schematic of the DC1/DC3 dual line tie-in facilities.

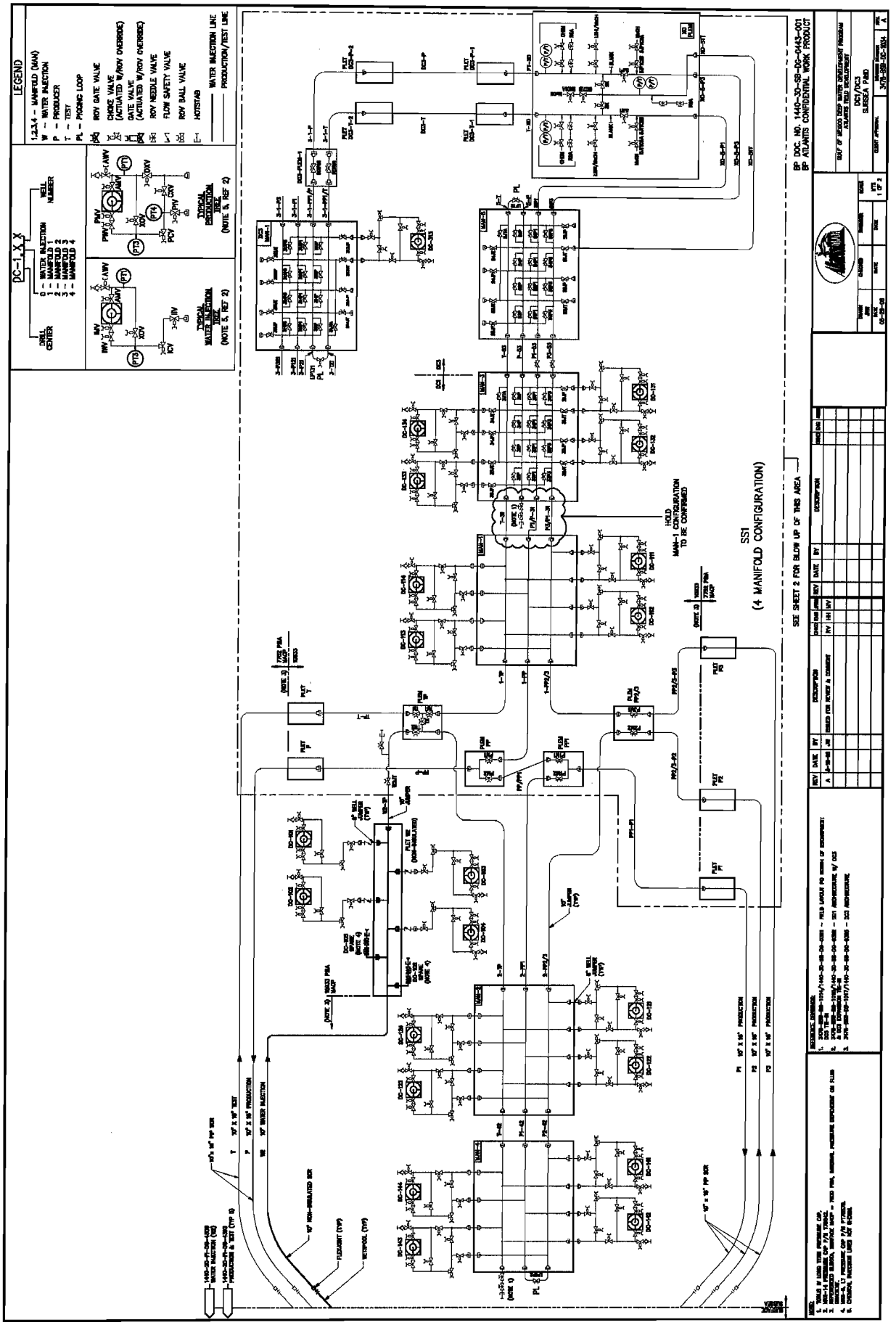
Hope this helps. Let me know if you have any questions.

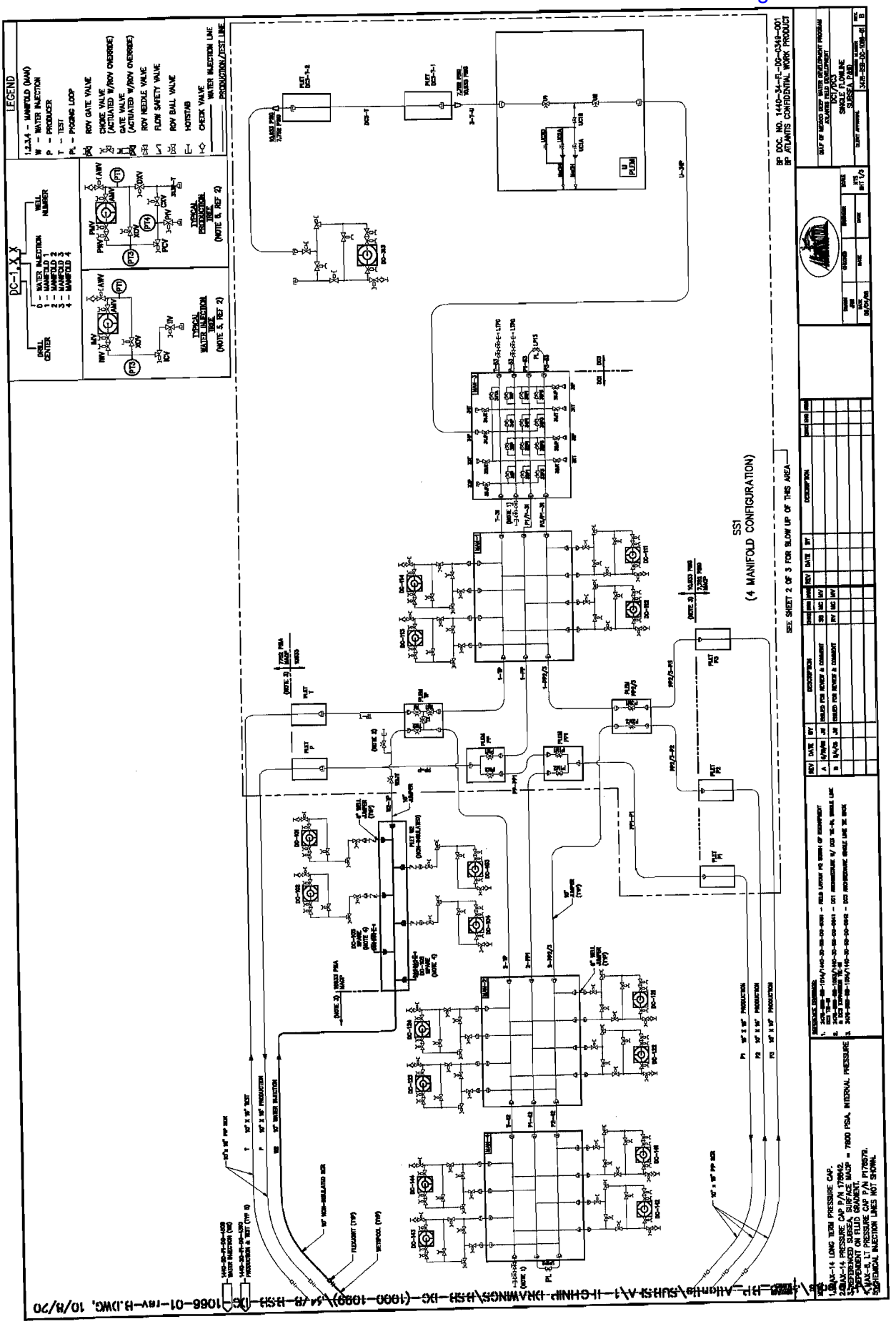
Malcolm.

(See attached file: DC1 SS1.PDF)(See attached file: DC3 Single Line.PDF) (See attached file: DC3 Dual Line.PDF)

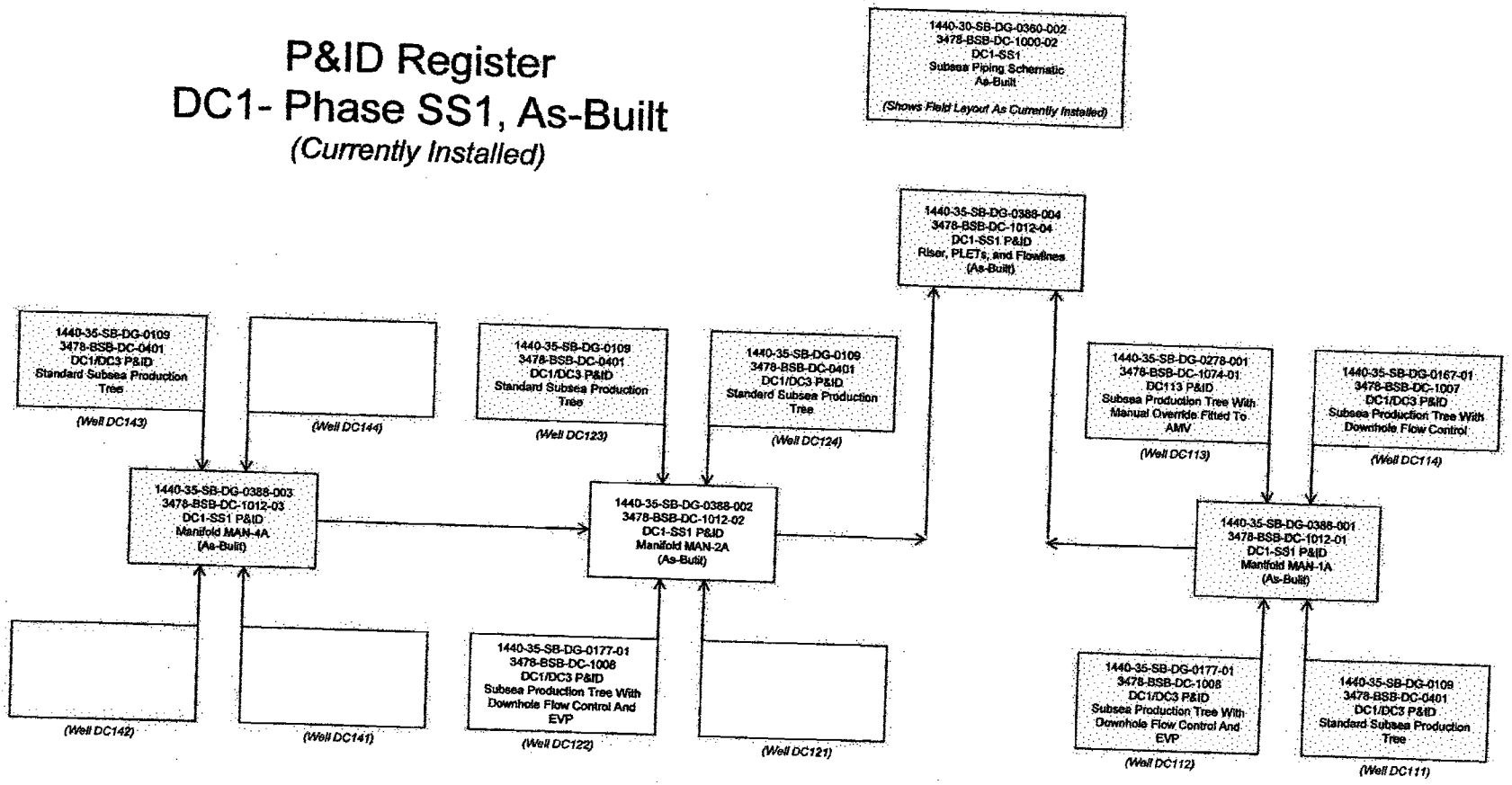
(See attached file: 3478-BSB-DC-1000-02_REV-8-.pdf)(See attached file: 3478-BSB-DC-1034-01_rev-a.pdf)(See attached file: 3478-BSB-DC-1066-01-rev-B.pdf)


LEGEND
DC-1_X_X
MAN-1A
MAN-2A
MAN-4A
MAN-3
FUTURE
PLET T
PLET P
PLET PP2/3
PLET PP1
PLET P3
PLET P2
PLET P1
PLEM TP
PLEM PP
PLEM PP2/3
PLEM PP1
DOWNHILL SLOPE (T, P, W2)
UPHILL SLOPE (P1, P2, P3)
DOWNHILL SLOPE (P1, P2, P3)
FLOW
10" x 16" PIP SCR
10" NON-INSULATED SCR
FLEXJOINT (TYP)
WETSPOOL (TYP)
10" JUMPER (TYP)
6" WELL JUMPER (TYP)
SURFACE
SUBSEA
BP DOC. NO. 1440-30-SB-DC-0360-002
BP ATLANTIS CONFIDENTIAL WORK PRODUCT
GULF OF MEXICO DEEP WATER DEVELOPMENT PROGRAM
ATLANTIS FIELD DEVELOPMENT
SUBSEA PIPING SCHEMATIC
AS BUILT


LEGEND
1,2,3,4 = MANIFOLD (MAN)
W = WATER INJECTION
P = PRODUCER
T = TEST
PL = PIGGING LOOP
ROV GATE VALVE
CHOKE VALVE (ACTUATED W/ROV OVERRIDE)
GATE VALVE (ACTUATED W/ROV OVERRIDE)
ROV NEEDLE VALVE
FLOW SAFETY VALVE
ROV BALL VALVE
HOTSTAB
WATER INJECTION LINE
PRODUCTION/TEST LINE
DC-1_X_X
DRILL CENTER
WELL NUMBER
1 = WATER INJECTION
2 = MANIFOLD 1
3 = MANIFOLD 2
4 = MANIFOLD 3
5 = MANIFOLD 4
TYPICAL DISTRIBUTION TREE (NOTE 5, REF 2)
TYPICAL WATER INJECTION TREE (NOTE 5, REF 2)
SEE SHEET 2 FOR BLOW UP OF THIS AREA
SSI
(4 MANIFOLD CONFIGURATION)
HOLD MAN-1 CONFIGURATION TO BE CONFIRMED
BP DOC. NO. 1440-30-SB-DD-0443-001
BP ATLANTIS CONFIDENTIAL WORK PRODUCT
GULF OF MEXICO DEEP WATER DEVELOPMENT PROGRAM
ATLANTIS FIELD DEVELOPMENT
DC1/DC3
SUBSEA P&ID
DESCRIPTION
REVISED PER VENDOR & COMMENT
DATE
BY
REV


LEGEND
1,2,3,4 – MANIFOLD (MAN)
W – WATER INJECTION
P – PRODUCER
T – TEST
PL – PIGGING LOOP
ROV GATE VALVE
CHOKE VALVE (ACTUATED W/ROV OVERRIDE)
GATE VALVE (ACTUATED W/ROV OVERRIDE)
ROV NEEDLE VALVE
FLOW SAFETY VALVE
ROV BALL VALVE
HOTSTAB
CHECK VALVE
WATER INJECTION LINE
PRODUCTION/TEST LINE
DC-1 X Y
WELL NUMBER
0 = WATER INJECTION
1 = MANIFOLD 1
2 = MANIFOLD 2
3 = MANIFOLD 3
4 = MANIFOLD 4
DRILL CENTER
TYPICAL PRODUCTION/TEST TREE (NOTE 6, REF 2)
TYPICAL WATER INJECTION TREE (NOTE 6, REF 2)
SSI
(4 MANIFOLD CONFIGURATION)
SEE SHEET 2 OF 3 FOR BLOW UP OF THIS AREA
BP DOC. NO. 1440-34-PL-DC-0349-001
BP ATLANTIS CONFIDENTIAL WORK PRODUCT
GULF OF MEXICO DEEP WATER DEVELOPMENT PROGRAM
ATLANTIS FIELD DEVELOPMENT
DCT/PLET
SUBSEA PLET
SUBSEA PLET
SUBSEA PIPELINE
SUBSEA P&ID
DRAWING NUMBER
1440-34-DC-1066-01
REV
B
CLIENT APPROVAL
DESIGN
APP
DRAWN
CHECKED
DATE
REVISIONS
DESCRIPTION
BY
DATE
REV
ISSUED FOR REVIEW & COMMENT
ISSUED FOR REVIEW & COMMENT
REFERENCE DRAWINGS
1. 1440-34-PL-DC-0349-001 – FIELD LAYOUT PD SCHEM OF EQUIPMENT
2. 1440-34-PL-DC-0349-001 – DCT MANIFOLD W/ DCS 'K'-'L' SPOOL LINE
3. 1440-34-PL-DC-0349-002 – DCS MANIFOLD SPOOL LINE 'K' SPOOL
1. MAX-14 LONG TERM PRESSURE CAP, 14MAX-14 PRESSURE CAP P/N 179942.
2. MAX-14 HOUSING SURFACE MAOP = 7500 PSIA, INTERNAL PRESSURE DEPENDENT ON FLUID GRADIENT.
3. MAX-8, LT PRESSURE CAP P/N P178579.
GEOMETRICAL INJECTION LINES NOT SHOWN.
\\houhp-fil1\Atlantis\SUBSEA\1-ICGNHP-DRAWINGS\HSH-DC-(1000-1099)\14(R-HSH-DC-1066-01-rev-H.DWG, 10/8/20

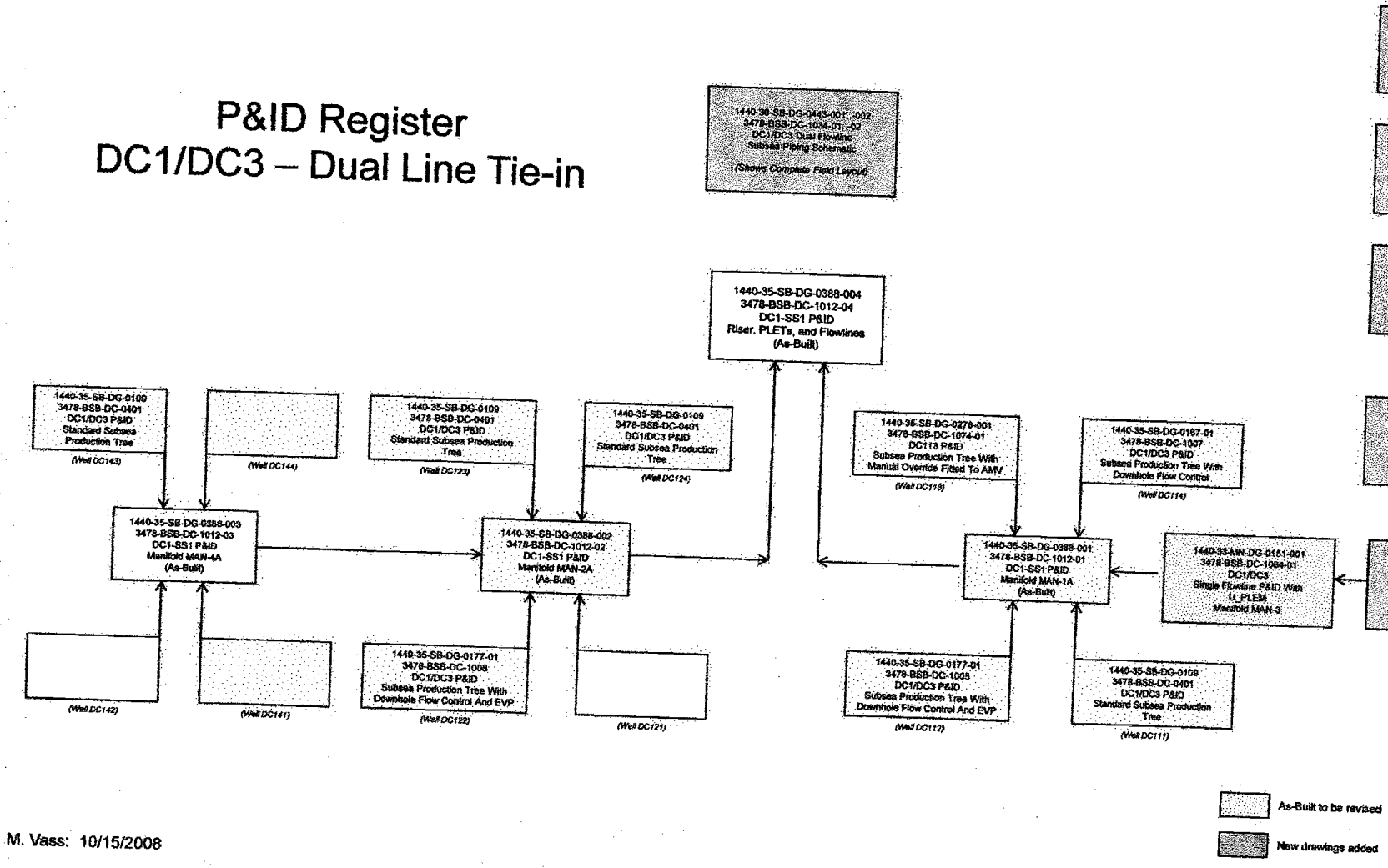
P&ID Register
DC1- Phase SS1, As-Built
(Currently Installed)



M. Vass: 10/15/2008

Case 4:09-cv-01193 Document 345-6 Filed in TXSD on 04/04/12 Page 8 of 183

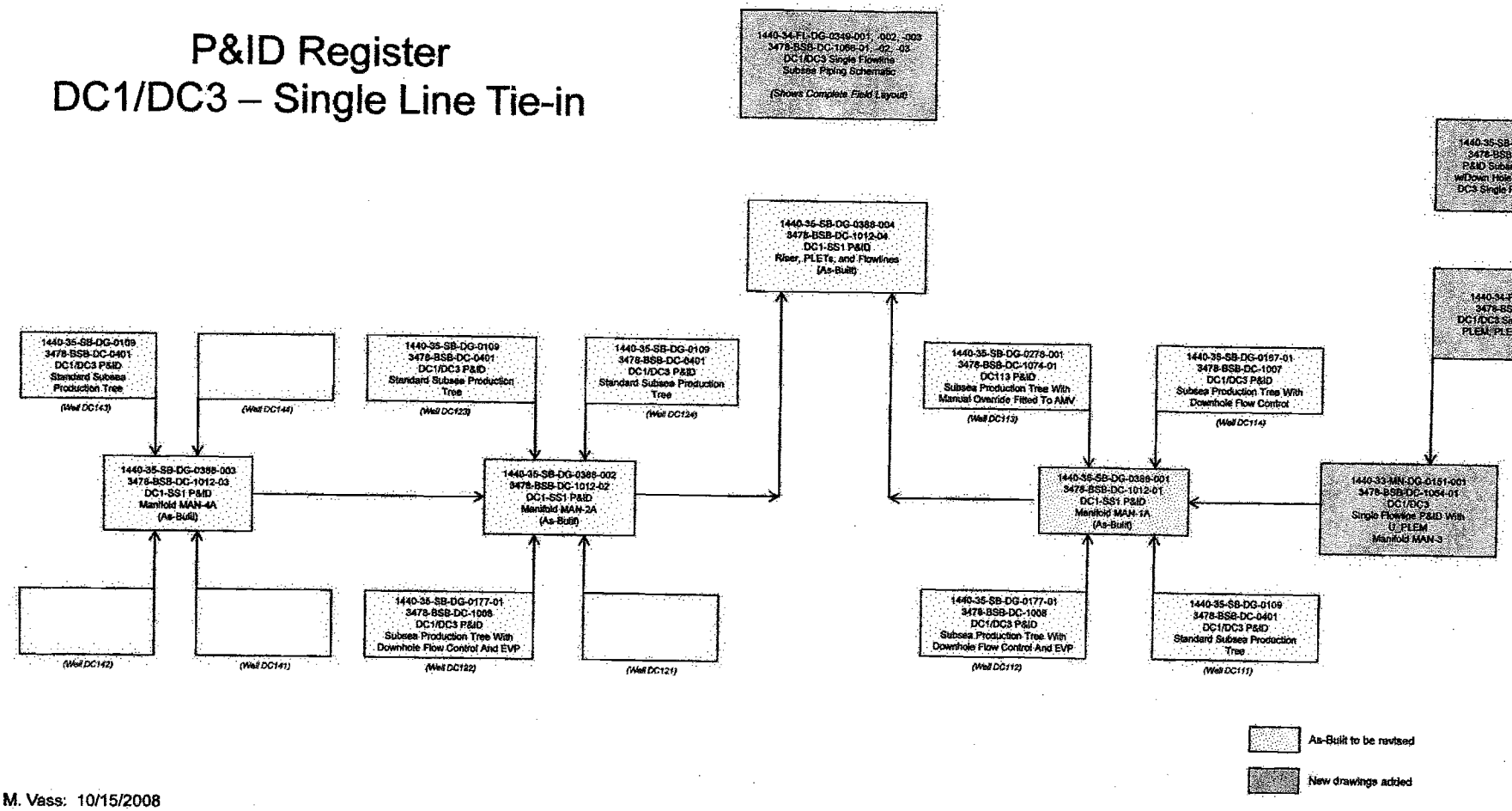
P&ID Register
DC1/DC3 – Dual Line Tie-in



M. Vass: 10/15/2008

Case 4:09-cv-01193 Document 345-6 Filed in TXSD on 04/04/12 Page 9 of 183

P&ID Register
DC1/DC3 – Single Line Tie-in



M. Vass: 10/15/2008

Case 4:09-cv-01193 Document 345-6 Filed in TXSD on 04/04/12 Page 10 of 183

E-mail 10 of 61

Unknown

From: Abbott, Ken (SWIFT TECHNICAL SERVICES)
Sent: Tuesday, November 04, 2008 1:58 PM
To: Vass, Malcolm (Technip)
Cc: Curtis, Tinikka (NES); Broman, William H(HOU); Hughes, John D; Malone, Ryan P; Jondle, John J; Schwebel, John; Huntoon, George G (Clover); Weber, Dana (R&D Technical)
Subject: FW: Test Records in Documentum

Malcolm - would you please check into this? I agree with Dana that we should include all test results in our final documentation and ensure that results are traceable with tags for operations. These tests are important indicators of the continuing fitness for purpose of these items after manufacture and before final installation, and should be processed through the tag number flow.

From: Weber, Dana (R&D Technical)
Sent: Tuesday, November 04, 2008 1:43 PM
To: Abbott, Ken (SWIFT TECHNICAL SERVICES); Huntoon, George G (Clover)
Cc: Curtis, Tinikka (NES)
Subject: Test Records in Documentum

Ken,

As I mentioned this morning, we may need to revisit the definition of the documents & records that go through Technip Document control. This is the situation, as presented last week:

Using Trees as an example (will also apply to Manifolds, and any other equipment that is Deck or Subsea Tested):

We have 2 sources of information on the final configuration and performance of Atlantis Equipment:

- **Source #1 - The manufacturer, as included in the Manufacturing Data Book (issued by the manufacturer)**
- **Source #2 – The BP team, as recorded in the post-delivery testing (included in the Hardy St. Deck Test, DD2 Deck Test, Tubing Hanger Deck Test, and Subsea Test record books)**

Both of these sources provide us, and later the Operations group, with valuable performance data for this equipment. The document numbers for these post-delivery tests are included in the Handover Books, and the assurance of the testing (record of successful testing) is a requirement for the Mechanical Completion certificate included in the Handover certification.

When attempting to process the #2 type books through Technip Document Control, we were informed that "because the records were not sent in by the Manufacturer," there would be no "Tag No." referenced on them, and therefore included in the traceable records accessible by Operations.

The four test record books (as listed under "#2" above) are, in fact, the most recent performance test data available for each tree, and should be treated in line with the process for the Manufacturer's data books.

I would appreciate your assistance in making sure these records are not archived as non-traceable, inconsequential data, but are processed through the Tag No. flow as are the Manufacturer's data books.

Thanks,

Dana Weber
BP Atlantis Subsea
Handover Coordinator
Technip 4.71
Offc 281-249-7627
Cell 832-567-4670
dana.weber@bp.com

E-mail 11 of 61

Unknown

From: Curtis, Tinikka (NES)
Sent: Wednesday, November 12, 2008 1:39 PM
To: Abbott, Ken (SWIFT TECHNICAL SERVICES)
Subject: RE: DC-1 Closeout Matrix

Attachments: DC-1 n SS-1 Closeout - Sector Report RevA.ZIP

Per our discussion ...

DC-1 n SS-1
Closeout - Sector ...

Tinikka Curtis
281-249-8978
Tinikka.Curtis@bp.com

From: Abbott, Ken (SWIFT TECHNICAL SERVICES)
Sent: Wednesday, November 12, 2008 12:47 PM
To: Curtis, Tinikka (NES)
Subject: FW: DC-1 Closeout Matrix

Tinikka - please advise the status on populating this DC-1 closeout document with status...

From: Duff, Barry C
Sent: Wednesday, November 12, 2008 11:25 AM
To: Abbott, Ken (SWIFT TECHNICAL SERVICES)
Subject: DC-1 Closeout Matrix

Here's the file. As discussed Tinikka was to use this to get with the leads to closeout all the outstanding documents.

Best Regards,

Barry C. Duff
Horn Mountain NWFX - Project Manager

BP GoM Developments Subsea Projects
200 Westlake Park Blvd.
Office Number 5.09A WL4
Houston, Texas, USA 77079
Office: +1 (281) 366-7566
Cell: +1 (713) 408-1933
Fax: +1 (281) 366-7557
E-mail: barry.duff@bp.com
Horn Mountain – Always Seeking the Peak

<< File: DC-1 n SS-1 Closeout - Archiving Summary MatrixRevB.xls >>

Pursuant to the Declaration of David L. Perry, Paragraph 7, the file attached to the preceding e-mail was not printed.

Attachment Title: DC-1 n SS-1 Closeout – Sector Report RevA.ZIP

E-mail 12 of 61

Unknown

From: Abbott, Ken (SWIFT TECHNICAL SERVICES)
Sent: Thursday, November 13, 2008 2:50 PM
To: Broman, William H(HOU); Mack, John G; Berger, Ron K (Manatee); Oza, Nita; Ray, Jim L (Manatee); Hui, Christopher; Whitehead, David K (Technip); Curtis, Tinikka (NES); Abbott, Ken (SWIFT TECHNICAL SERVICES); Malone, Ryan P; Jondle, John J; Kahlden, Ken M (Clover)
Cc: Velasquez, Roy (Technip); King, Jeff (Technip)
Subject: FW: Subsea P&IDs- status and final as-built drawings issue to operations

Attachments: DC1 Subsea P&IDs.PDF

DC1 Subsea P&IDs.PDF (19 KB)

Malcolm - thanks for the drawing schedule on all DC-1 P&ID's. What is your forecast date for completion of the last P&ID for DC1, the DC-142 well? We need it completed in November because I would like for Tinika to issue all DC-1 original scope P&ID's to operations in early December as "as-builts" as part of our closeout of DC1-original scope. Please make sure the drawings are stamped "as-built" as you have said you will do.

Tinika - please make sure we have this latest release status in documentum...

-----Original Message-----
From: McVass@technip.com [mailto:McVass@technip.com]
Sent: Friday, November 07, 2008 3:06 PM
To: Broman, William H(HOU); Mack, John G; Berger, Ron K (Manatee); Oza, Nita; Ray, Jim L (Manatee); Hui, Christopher; Whitehead, David K (Technip); Curtis, Tinikka (NES); Abbott, Ken (SWIFT TECHNICAL SERVICES); Malone, Ryan P; Jondle, John J; Kahlden, Ken M (Clover)
Cc: Velasquez, Roy (Technip); King, Jeff (Technip)
Subject: Subsea P&IDs

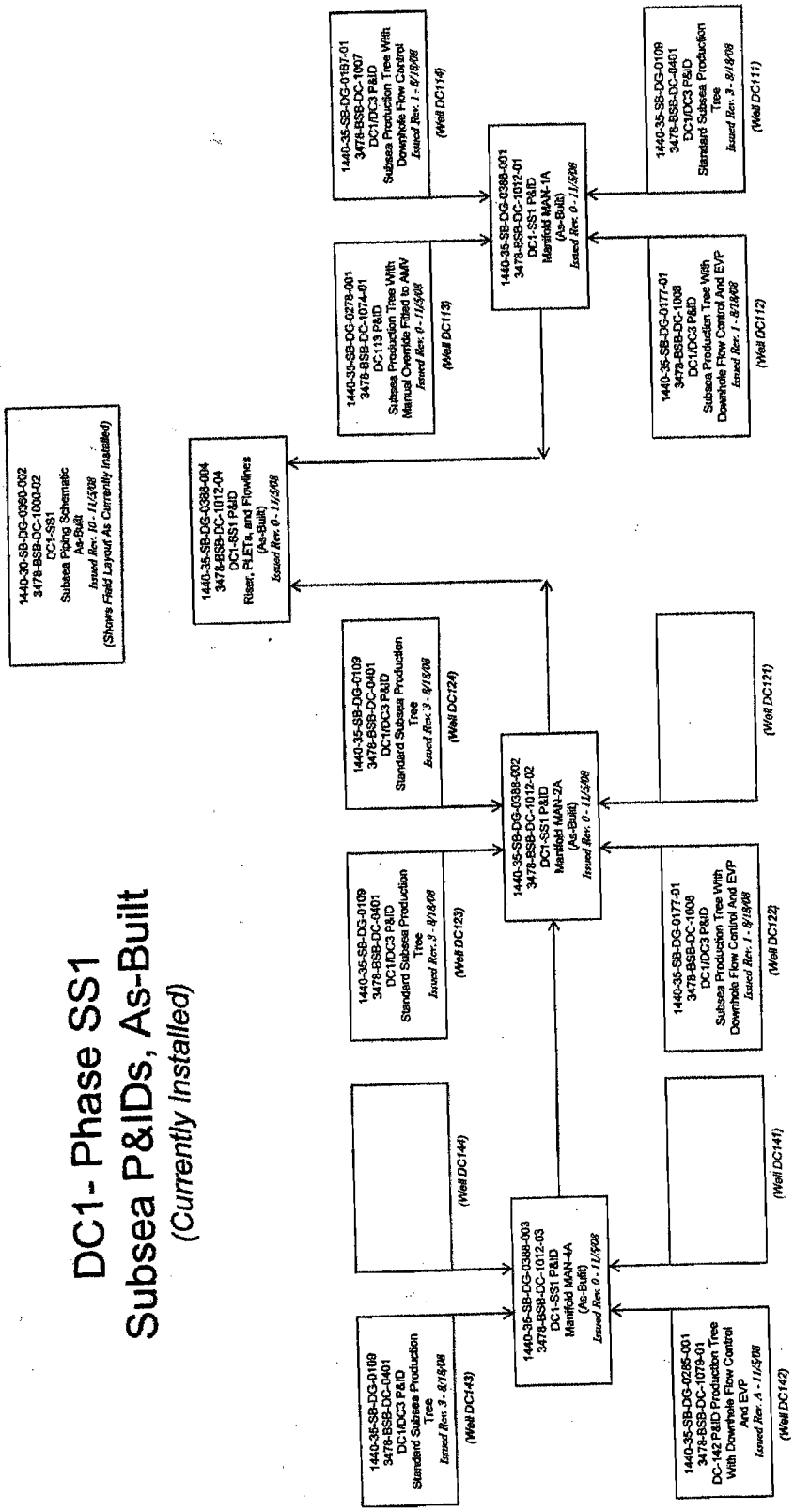
All,

FYI. The attached document shows the drawing numbers for the as-built Subsea P&IDs for Atlantis. These drawings are complete with the exception of the P&ID for the subsea tree on the DC-142 well. This P&ID is circulating as Rev. A "Issued for comment". This well requires a separate tree P&ID since the "T" jumper was not installed.

Regards,

Malcolm.

(See attached file: DC1 Subsea P&IDs.PDF)


DC1- Phase SS1
Subsea P&IDs, As-Built
(Currently Installed)
1440-30-SB-DG-0360-002
3478-BSB-DC-1000-02
DC1-SS1
Subsea Piping Schematic
As-Built
Issued Rev. 10 - 11/5/08
(Shows Field Layout As Currently Installed)
1440-35-SB-DG-0388-004
3478-BSB-DC-1012-04
DC1-SS1 P&ID
Risers, PLETs, and Flowlines
(As-Built)
Issued Rev. 0 - 11/5/08
1440-35-SB-DG-0388-001
3478-BSB-DC-1012-01
DC1-SS1 P&ID
Manifold MAN-1A
(As-Built)
Issued Rev. 0 - 11/5/08
1440-35-SB-DG-0388-002
3478-BSB-DC-1012-02
DC1-SS1 P&ID
Manifold MAN-2A
(As-Built)
Issued Rev. 0 - 11/5/08
1440-35-SB-DG-0388-003
3478-BSB-DC-1012-03
DC1-SS1 P&ID
Manifold MAN-4A
(As-Built)
Issued Rev. 0 - 11/5/08
1440-35-SB-DG-0278-001
3478-BSB-DC-1074-01
DC113 P&ID
Subsea Production Tree With
Manual Override Fitted to AMV
Issued Rev. 0 - 11/5/08
(Well DC113)
1440-35-SB-DG-0167-01
3478-BSB-DC-1007
DC1/DC3 P&ID
Subsea Production Tree With
Downhole Flow Control
Issued Rev. 1 - 8/18/08
(Well DC114)
1440-35-SB-DG-0177-01
3478-BSB-DC-1008
DC1/DC3 P&ID
Subsea Production Tree With
Downhole Flow Control And EVP
Issued Rev. 1 - 8/18/08
(Well DC112)
1440-35-SB-DG-0109
3478-BSB-DC-0401
DC1/DC3 P&ID
Standard Subsea Production
Tree
Issued Rev. 3 - 8/18/08
(Well DC111)
1440-35-SB-DG-0109
3478-BSB-DC-0401
DC1/DC3 P&ID
Standard Subsea Production
Tree
Issued Rev. 3 - 8/18/08
(Well DC124)
1440-35-SB-DG-0109
3478-BSB-DC-0401
DC1/DC3 P&ID
Standard Subsea Production
Tree
Issued Rev. 3 - 8/18/08
(Well DC123)
1440-35-SB-DG-0177-01
3478-BSB-DC-1008
DC1/DC3 P&ID
Subsea Production Tree With
Downhole Flow Control And EVP
Issued Rev. 1 - 8/18/08
(Well DC122)
(Well DC121)
(Well DC144)
1440-35-SB-DG-0109
3478-BSB-DC-0401
DC1/DC3 P&ID
Standard Subsea Production
Tree
Issued Rev. 3 - 8/18/08
(Well DC143)
(Well DC141)
1440-35-SB-DG-0285-001
3478-BSB-DC-1079-01
DC-142 P&ID Production Tree
With Downhole Flow Control
And EVP
Issued Rev. A - 11/5/08
(Well DC142)
11/3/2008

E-mail 13 of 61

Unknown

From: Garland, Mike L
Sent: Tuesday, November 18, 2008 3:56 PM
To: Curtis, Tinikka (NES)
Cc: Abbott, Ken (SWIFT TECHNICAL SERVICES)
Subject: RE: Rough Draft -Document Control Proposal

Tinikka.

This looks like a good piece of work and accurately reflects the discussions we held at Westlake on the way forward to correct the document numbering and attribute errors.

Please advise of your plans to move forward on this, do you intend to meet only with the BP leads or open this up to a wider audience. Could you also please send me an example of the report you intend to issue including the additional fields added by you to capture the required metadata.

Mike.

Document Control Issues Recommendation

Supporting Facts

Today most documents that come to BP document control comes from Technip document control in the subsea drop box in Documentum. Once the documents are QC, we find several issues with the documentation that need to be resolved before loading into Documentum.

Problem

Majority of the documents in Documentum are incorrectly numbered, titled, and wrongly identified drill centers. This creates a problem for retrieval and the ability to handover accurate documentation to Operations.

Recommendation

BP Document Control will provide a spreadsheet for each lead with documents broken down by Sector.

A Document Status kick-off meeting will be scheduled with each of the Leads and/or Dedicated Representatives from each group for every document on the list to be reviewed and distinguish if the following attributes are correct. If they are incorrect, the leads will need to mark them up on the spreadsheet with the correction for Tinikka to input into Documentum:

- BP Document Number
  - Sector
  - Discipline
  - Document Type
- Area – Drill Center
- Title
- Revision
- Rev Date
- Rev Purpose Code - Status
- Archival or Handover

Tinikka will work for a half-day with each lead to show them what drawing fields on the list must be updated and to

go through examples with them. The leads will then need to complete the mark-up of their individual spreadsheets and return to Tinikka for input into Documentum by 12/15/08.

BP Document Control will begin to record the following attributes for more search capabilities.

- Originator/ Contractor Firm
- Transmittal number
- Contractor Document Number
- Status Code

Process

1. The Lead will receive the spreadsheet by sector.
The first attribute to be reviewed are the **document numbers.** They need to be reviewed for accuracy and corrected. The document number has a lot of impact on how documents are filed in Documentum. The document numbers consist of other valuable attributes that also need to be reviewed and corrected:

    - Sector
    - Discipline
    - Document Type.

2. The next attribute to be identified is the **AREA - (drill center).**
The drill center will determine the next steps to take with the document.

    It has been argued that the phases do not matter, however because we work in phases it is to our advantage to label the document by phase if it's relevant to the document for easier identification at handover.

Subsea All

- Documents that is common to all Drill Centers

- There should not be very many of these documents, and most documents should still have a specific sector other than 30.

- Most of these documents will stay with the project until the end of the job.

Drill Center 1 -- South Flank

DC-1

- **Documents that illustrate what is currently installed and planned to stay unless other circumstances occur.**

- **These documents are a priority because most of these documents reflect what's currently installed and operating and need to be handover to Operations.**

DC-1 (SS-0)

- Documents that illustrate Original design / equipment that was removed.

- All of these documents will probably be archived.

DC-1 (SS1)

- Documents that illustrate what is currently installed but planned to be removed by another phase.
- These documents are also a priority because most of these documents reflect what's currently installed and operating and need to be handover to Operations.
- Some of these documents will be added to a cross-reference spreadsheet to ensure that they are superseded by the next phase documents and correctly numbered during the next phase.

DC-1 (SS2)

- Documents that illustrate what will replace equipment that is currently installed
- These documents are still in review/comment status so any errors made can be corrected.

Drill Center 3 – North Flank

DC-3

- Documents that are assigned to Atlantis North Flank (ANF) Base Case.
- These documents are still in review/comment status so any errors made can be corrected.

DC-3 (Phase I)

- Documents that is specific to ANF Phase I only.
- These documents are the next priority because some of these documents reflect what is installed but not operating. These documents is the second priority on the list to be handed over to Operations.

DC-3 (Phase II)

- Documents that is specific to ANF Phase II only.
- These documents are still in review/comment status so any errors made can be corrected.

3. The document titles are probably accurate with the exception of the Drill Center not being written in the title box.

DC-0, DC-1, DC-1 (SS1) titles will remain the same

DC-1 (SS2) and DC-3 titles will be corrected on the document and in documentum

4. Now we can begin to check the revision code and rev purpose code (*status code*).

   DC-(SS-0), DC-1, DC-1 (SS1) revision codes and status codes will remain the same

   DC-1 (SS2) and DC-3, revision codes and status codes will be corrected on the document and in documentum.

5. In some cases the leads and/or Rep know if the documents are going to be handover to Operations or archived deliverables.
   This step will allow us to prioritize correcting the handover documentation before the archival data.

E-mail 14 of 61

Unknown

From: Garland, Mike L
Sent: Tuesday, November 18, 2008 3:56 PM
To: Curtis, Tinikka (NES)
Cc: Abbott, Ken (SWIFT TECHNICAL SERVICES)
Subject: RE: Rough Draft -Document Control Proposal

Tinikka.

This looks like a good piece of work and accurately reflects the discussions we held at Westlake on the way forward to correct the document numbering and attribute errors.

Please advise of your plans to move forward on this, do you intend to meet only with the BP leads or open this up to a wider audience. Could you also please send me an example of the report you intend to issue including the additional fields added by you to capture the required metadata.

Mike.

Document Control Issues Recommendation

Supporting Facts

Today most documents that come to BP document control comes from Technip document control in the subsea drop box in Documentum. Once the documents are QC, we find several issues with the documentation that need to be resolved before loading into Documentum.

Problem

Majority of the documents in Documentum are incorrectly numbered, titled, and wrongly identified drill centers. This creates a problem for retrieval and the ability to handover accurate documentation to Operations.

Recommendation

BP Document Control will provide a spreadsheet for each lead with documents broken down by Sector.

A Document Status kick-off meeting will be scheduled with each of the Leads and/or Dedicated Representatives from each group for every document on the list to be reviewed and distinguish if the following attributes are correct. If they are incorrect, the leads will need to mark them up on the spreadsheet with the correction for Tinikka to input into Documentum:

- BP Document Number
  - Sector
  - Discipline
  - Document Type
- Area – Drill Center
- Title
- Revision
- Rev Date
- Rev Purpose Code - Status
- Archival or Handover

Tinikka will work for a half-day with each lead to show them what drawing fields on the list must be updated and to

go through examples with them. The leads will then need to complete the mark-up of their individual spreadsheets and return to Tinikka for input into Documentum by 12/15/08.

BP Document Control will begin to record the following attributes for more search capabilities.

- Originator/ Contractor Firm
- Transmittal number
- Contractor Document Number
- Status Code

Process

1. The Lead will receive the spreadsheet by sector.
The first attribute to be reviewed are the document numbers. They need to be reviewed for accuracy and corrected. The document number has a lot of impact on how documents are filed in Documentum. The document numbers consist of other valuable attributes that also need to be reviewed and corrected:

    - Sector
    - Discipline
    - Document Type.

2. The next attribute to be identified is the AREA - (drill center).
The drill center will determine the next steps to take with the document.

    It has been argued that the phases do not matter, however because we work in phases it is to our advantage to label the document by phase if it's relevant to the document for easier identification at handover.

Subsea All

- Documents that is common to all Drill Centers

- There should not be very many of these documents, and most documents should still have a specific sector other than 30.

- Most of these documents will stay with the project until the end of the job.

Drill Center 1 – South Flank

DC-1

- **Documents that illustrate what is currently installed and planned to stay unless other circumstances occur.**

- **These documents are a priority because most of these documents reflect what's currently installed and operating and need to be handover to Operations.**

DC-1 (SS-0)

- Documents that illustrate Original design / equipment that was removed.

- All of these documents will probably be archived.

DC-1 (SS1)

- **Documents that illustrate what is currently installed but planned to be removed by another phase.**
- **These documents are also a priority because most of these documents reflect what's currently installed and operating and need to be handover to Operations.**
- **Some of these documents will be added to a cross-reference spreadsheet to ensure that they are superseded by the next phase documents and correctly numbered during the next phase.**

DC-1 (SS2)

- Documents that illustrate what will replace equipment that is currently installed
- These documents are still in review/comment status so any errors made can be corrected.

Drill Center 3 – North Flank

DC-3

- Documents that are assigned to Atlantis North Flank (ANF) Base Case.
- These documents are still in review/comment status so any errors made can be corrected.

DC-3 (Phase I)

- Documents that is specific to ANF Phase I only.
- These documents are the next priority because some of these documents reflect what is installed but not operating. These documents is the second priority on the list to be handed over to Operations.

DC-3 (Phase II)

- Documents that is specific to ANF Phase II only.
- These documents are still in review/comment status so any errors made can be corrected.

3. The document titles are probably accurate with the exception of the Drill Center not being written in the title box.

DC-0, DC-1, DC-1 (SS1) titles will remain the same

DC-1 (SS2) and DC-3 titles will be corrected on the document and in documentum

4. Now we can begin to check the **revision code** and **rev purpose code** (*status code*).

   DC-(SS-0), DC-1, DC-1 (SS1) revision codes and status codes will remain the same

   DC-1 (SS2) and DC-3, revision codes and status codes will be corrected on the document and in documentum.

5. In some cases the leads and/or Rep know if the documents are going to be **handover to Operations** or **archived deliverables.**
   This step will allow us to prioritize correcting the handover documentation before the archival data.

E-mail 15 of 61

Unknown

From: Curtis, Tinikka (NES)
Sent: Wednesday, November 19, 2008 2:28 PM
To: Abbott, Ken (SWIFT TECHNICAL SERVICES)
Subject: Document Control Issues Recommendation - with Doc. Numbers included

Document Control Issues Recommendation

Supporting Facts

Today most documents that come to BP document control comes from Technip document control in the subsea drop box in Documentum. Once the documents are QC, we find several issues with the documentation that need to be resolved before loading into Documentum.

Problem

Majority of the documents in Documentum are incorrectly numbered, titled, and wrongly identified drill centers. This creates a problem for retrieval and the ability to handover accurate documentation to Operations.

Recommendation

BP Document Control will provide a spreadsheet for each lead with documents broken down by Sector.

A Document Status kick-off meeting will be scheduled with each of the Leads and/or Dedicated Representatives from each group for every document on the list to be reviewed and distinguish if the following attributes are correct. If they are incorrect, the leads will need to mark them up on the spreadsheet with the correction for Tinikka to input into Documentum:

- BP Document Number
  - Sector
  - Discipline
  - Document Type
- Area – Drill Center
- Title
- Revision
- Rev Date
- Rev Purpose Code - Status
- Archival or Handover

Tinikka will work for a half-day with each lead to show them what drawing fields on the list must be updated and to go through examples with them. The leads will then need to complete the mark-up of their individual spreadsheets and return to Tinikka for input into Documentum by 12/15/08.

BP Document Control will begin to record the following attributes for more search capabilities.

- Originator/ Contractor Firm
- Transmittal number
- Contractor Document Number
- Status Code

Process

1. The Lead will receive the spreadsheet by sector.
The first attribute to be reviewed are the **document numbers.** They need to be reviewed for accuracy and corrected. The document number has a lot of impact on how documents are filed in Documentum. The document numbers consist of other valuable attributes that also need to be reviewed and corrected:

   - Sector
   - Discipline
   - Document Type.

2. The next attribute to be identified is the **AREA - (drill center).**
The drill center will determine the next steps to take with the document.

   It has been argued that the phases do not matter, however because we work in phases it is to our advantage to label the document by phase if it's relevant to the document for easier identification at handover.

Subsea All

- Documents that is common to all Drill Centers

- There should not be very many of these documents, and most documents should still have a specific sector other than 30.

- Most of these documents will stay with the project until the end of the job.

Drill Center 1 – South Flank

DC-1

- **Documents that illustrate what is currently installed and planned to stay unless other circumstances occur.**

- **These documents are a priority because most of these documents reflect what's currently installed and operating and need to be handover to Operations.**

DC-1 (SS-0)

- Documents that illustrate Original design / equipment that was removed.

- All of these documents will probably be archived.

DC-1 (SS1)

- **Documents that illustrate what is currently installed but planned to be removed by another phase.**

- **These documents are also a priority because most of these documents reflect what's currently installed and operating and need to be handover to Operations.**

- **Some of these documents will be added to a cross-reference spreadsheet to ensure that they are superseded by the next phase documents and correctly numbered during the next phase.**

DC-1 (SS2)

- Documents that illustrate what will replace equipment that is currently installed
- These documents are still in review/comment status so any errors made can be corrected.

Drill Center 3 – North Flank

DC-3

- Documents that are assigned to Atlantis North Flank (ANF) Base Case.
- These documents are still in review/comment status so any errors made can be corrected.

DC-3 (Phase I)

- Documents that is specific to ANF Phase I only.
- These documents are the next priority because some of these documents reflect what is installed but not operating. These documents is the second priority on the list to be handed over to Operations.

DC-3 (Phase II)

- Documents that is specific to ANF Phase II only.
- These documents are still in review/comment status so any errors made can be corrected.

3. The document titles are probably accurate with the exception of the Drill Center not being written in the title box.

   DC-0, DC-1, DC-1 (SS1) titles will remain the same

   DC-1 (SS2) and DC-3 titles will be corrected on the document and in documentum

4. Now we can begin to check the revision code and rev purpose code *(status code)*.

   DC-(SS-0), DC-1, DC-1 (SS1) revision codes and status codes will remain the same

   DC-1 (SS2) and DC-3, revision codes and status codes will be corrected on the document and in documentum.

5. In some cases the leads and/or Rep know if the documents are going to be handover to Operations or archived deliverables.

This step will allow us to prioritize correcting the handover documentation before the archival data.

Tinikka Curtis
Atlantis Subsea Project Team
Document Control
Tinikka.Curtis@bp.com
281-249-8978

E-mail 16 of 61

Unknown

From: Abbott, Ken (SWIFT TECHNICAL SERVICES)
Sent: Wednesday, November 19, 2008 3:15 PM
To: Broman, William H(HOU); Garland, Mike L; Curtis, Tinikka (NES); Naseman, Bill E
Subject: Atlantis Document Control Proposal - Path Forward

Attachments: Sector 31 - Wellheads - J.Hughes.xls; Sector 32 - Trees - R. Weber.ZIP; Sector 33 - Manifolds - J. Schwebel.ZIP; Sector 34 - Pipelines - J.Mack.ZIP; Sector 35 - Controls- D. Whitehead.ZIP; Sector 36 - Umbilical - B. Kirkham.ZIP; Sector 37 - Risers - J. Mack .ZIP; Sector 70 - Installation- J. Hughes.ZIP

Bill - we made some revisions to the proposed process for correcting documentum. Please review and transmit to the leads for implementation as per our discussion...

From: Abbott, Ken (SWIFT TECHNICAL SERVICES)
Sent: Tuesday, November 18, 2008 5:16 PM
To: Broman, William H(HOU)
Cc: Curtis, Tinikka (NES); Garland, Mike L
Subject: FW: Rough Draft -Document Control Proposal

Bill - here is our go-forward Documentum QA plan as discussed at our meeting with Bill Naseman and Westlake Document control. Please review it and issue it to the leads as our plan to complete the needed quality control check on drawings issued and to ensure that we can identify and provide as built drawings as needed from documentum for each drill center.

From: Curtis, Tinikka (NES)
Sent: Tuesday, November 18, 2008 4:12 PM
To: Abbott, Ken (SWIFT TECHNICAL SERVICES)
Subject: FW: Rough Draft -Document Control Proposal

Attention Atlantis Leads: We are in the process of close-out for the DC-1 original scope project costs and the issue of all final documentum drawings to the operations group for these working assets. It is critical for these drawings that we QC them, get final as-built drawings by drill center, and transmit to operations quickly.

As we all know, there have been issues with non-compliance with project drawing numbering and tracking procedures, and the status of drawings by drill center is also not complete. We intend to remedy these problems and bring the DC-1 drawings to a proper close-out by the end of January 09, and issue as-built drawings to operations at the same time. To do so, we need your help. At the same time, it is our intent to get the DC3, Water Injection, and SS2 documentum tracking and document issue back in sync with current drawing control procedures.

We have reviewed the below plan will Bill Broman and the Westlake Document Control team, and we have their support. **This effort will require a dedicated resource from each of your teams to review and correct the spreadsheets (Tinikka has attached the spreadsheet below by lead and sector) showing the documents under your control (correcting the drill center #, rev #, rev status, etc.) during the next few weeks (scheduled completion date is 01/09/09).** Once we have the drawing data correct in Documentum, we plan to then issue documentum drawing schedules with required as-built drawing need dates for closeout for all documents for monthly status updating by the schedulers and leads.

Schedule for Documentum updates/corrections

11/24/08 - Tinikka Distributes Drawing Index to Leads, and begins meeting with Leads to explain input required as well as to help work sample corrections
01/09/09 - Leads Complete mark-up of Document Index with corrections and drill center # as required

02/06/09 - All corrections and drill center # attributes loaded into Documentum
02/13/08 - Summary drawing schedule to leads showing current drawing revision status and required issue date for all as-built drawings
02/27/09 - Final as-built drawings to Tinikka for all DC-1 drawings for issue to operations

Supporting Facts

Today most documents that come to BP document control comes from Technip document control in the subsea drop box in Documentum. Once the documents are QC, we find several issues with the documentation that need to be resolved before loading into Documentum.

Problem

Many of the documents in Documentum are incorrectly numbered, titled, and wrongly identified drill centers. This creates a problem for retrieval and the ability to handover accurate documentation to Operations.

Recommendation

BP Document Control will provide a spreadsheet for each lead with documents broken down by Sector.

A Document Status kick-off meeting will be scheduled with each of the Leads and/or Dedicated Representatives from each group for every document on the list to be reviewed and distinguish if the following attributes are correct. If they are incorrect, the leads will need to mark them up on the spreadsheet with the correction for Tinikka to input into Documentum:

- Sector
- Discipline
- Document Type
- Area – Drill Center
- Revision
- Rev Purpose Code - Status
- Archival or Handover

Tinikka will work for a half-day with each lead to show them what drawing fields on the list must be updated and to go through examples with them. The leads will then need to complete the mark-up of their individual spreadsheets and return to Tinikka for input into Documentum by 01/09/09.

BP Document Control will begin to record the following attributes for more search capabilities.

- Originator/ Contractor Firm
- Transmittal number
- Contractor Document Number
- Status Code

Process

1. The Lead will receive the spreadsheet by **SECTOR.**

The first attributes to be reviewed are the Sector, Discipline, and Document Type. They need to be reviewed for accuracy and corrected. These attributes have a lot of impact on how documents are filed in Documentum.

- Sector

- Discipline
- Document Type.

2. The next attribute to be identified is the AREA - (drill center).
The drill center will determine the next steps to take with the document.

It has been argued that the phases do not matter, however because we work in phases it is to our advantage to label the document by phase if it's relevant to the document for easier identification at handover.

Subsea All

- Documents that is common to all Drill Centers

- There should not be very many of these documents, and most documents should still have a specific sector other than 30.

- Most of these documents will stay with the project until the end of the job.

Drill Center 1 – South Flank

DC-1

- Documents that illustrate what is currently installed and planned to stay unless other circumstances occur.

- These documents are a priority because most of these documents reflect what's currently installed and operating and need to be handover to Operations.

DC-1 (SS-0)

- Documents that illustrate Original design / equipment that was removed.

- All of these documents will probably be archived.

DC-1 (SS1)

- Documents that illustrate what is currently installed but planned to be removed by another phase.

- These documents are also a priority because most of these documents reflect what's currently installed and operating and need to be handover to Operations.

- Some of these documents will be added to a cross-reference spreadsheet to ensure that they are superseded by the next phase documents and correctly numbered during the next phase.

DC-1 (SS2)

- Documents that illustrate what will replace equipment that is currently installed

- These documents are still in review/comment status so any errors made can be corrected.

Drill Center 3 – North Flank

DC-3

- Documents that are assigned to Atlantis North Flank (ANF) Base Case.

- These documents are still in review/comment status so any errors made can be corrected.

DC-3 (Phase I)

- Documents that is specific to ANF Phase I only.

- These documents are the next priority because some of these documents reflect what is installed but not operating. These documents is the second priority on the list to be handed over to Operations.

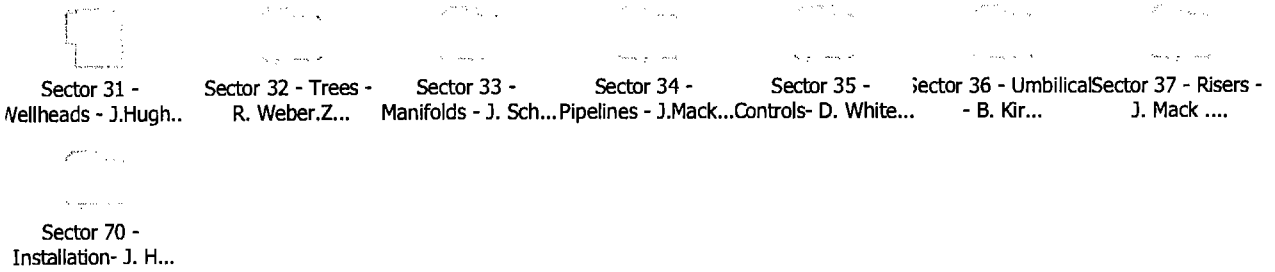
DC-3 (Phase II)

- Documents that are specific to ANF Phase II only.

- These documents are still in review/comment status so any errors made can be corrected.

3. Now we can begin to check the **revision code** and **rev purpose code** *(status code)*.

4. In some cases the leads and/or Rep know if the documents are going to be **handover to Operations** or **archived deliverables.**
This step will allow us to prioritize correcting the handover documentation before the archival data.



Pursuant to the Declaration of David L. Perry, Paragraph 7, the files attached to the preceding e-mail were not printed.

.xls Attachment Titles (some within ZIP files):

Sector 31 – Wellheads – J.Hughes
Sector 32 – Trees – R Weber
Sector 33 – Manifolds – J Schwebel
Sector 34 – Pipelines – J Mack
Sector 35 – Controls – D Whitehead
Sector 36 – Umbilical – B Kirkham
Sector 37 – Risers – J Mack
Sector 70 – Installation-J Hughes

E-mail 17 of 61

Unknown

From: Abbott, Ken (SWIFT TECHNICAL SERVICES) [Ken.Abbott@bp.com]
Sent: Tuesday, February 03, 2009 10:31 AM
To: kwabbott@comcast.net
Subject: FW: Alan Clark's resignation
Attachments: SS-2 Invoice Process (2.59 KB)

From: Abbott, Ken (SWIFT TECHNICAL SERVICES)
Sent: Tuesday, December 23, 2008 1:12 PM
To: Naseman, Bill E
Subject: Alan Clark's resignation

Bill - as per our phone conversation this morning, here is a summary of the events leading up to Alan Clark's resignation at lunch:

- This morning at about 9 AM Rebecca Cavalier came to my office to discuss a problem she said she was having with Alan Clark. She was quite upset and said she was having problems working with Alan Clark for the past few months due to his harassment of her when she attempts to communicate with him over Invoice issues. She wants to not have to work with him, or she may have to leave the project. I discussed the problem with her and she provided examples of the harassment.
- She said the problem has gotten so bad that she had sought a way to avoid contact with him this week, and she asked Jay Walsh to help with coding some SS2 invoices. (normally Alan's project invoices). Jay tried to help by forwarding the invoice to Alan. Alan immediately responded with a caustic

email to Rebecca and Jay (see attached).

<<FW: SS-2 Invoice Process>>

- I counseled Rebecca that using a buffer to work with Alan was not the answer, and that I would discuss the communication problem with Alan and work with them to resolve it. She said that was acceptable, and that she was willing to work to resolve the problem.
- I met with Alan around 10:00 AM today and told him that Becky had complained about her treatment by him. I also told him the email was unnecessary and that he should have resolved the issue with her personally. I also told him he needed to work to improve his communications with Becky. He responded that she was no good and should be terminated. Since I have had no complaints on Becky from the Atlantis team (in fact many good remarks about her) and my own experience with her performance has been very good, I told him that was not the solution. He then got very angry and insubordinate to me. I finished the conversation with Alan with a reminder that we have to all work together and communicate in order to get the job done.
- About 10:30 AM Alan brought his timesheet for the week to me to sign, which I did. He then dashed out of the office saying I had fired him. I told him no I had not. He then proceeded to tell other employees Jay Walsh and Becky that I had fired him and told Becky "thanks for the Christmas present of being fired". At no time did I tell Alan that he had been fired or even suggest it, I only talked with him about the need to address the communication problem. Becky was so upset over his outburst, that she asked for the rest of the day off, which I agreed to.
- Around 11:00 AM Alan went to the admin for Atlantis (Necie Kelley) and asked her to take his key, he was leaving. I have asked Necie to hold on to the key, lock his door, and take no further action until I advise. I have also left Alan a message on his cell phone to call me to resolve the issues.

Unknown

From: Walsh, Jay (NES OVERSEAS USA LLC) [Jay.Walsh@bp.com]
Sent: Tuesday, December 23, 2008 12:28 PM
To: Abbott, Ken (SWIFT TECHNICAL SERVICES)
Subject: FW: SS-2 Invoice Process

From: Clark, Alan (Clover)
Sent: Monday, December 22, 2008 1:00 PM
To: Cavalier, Rebecca (Turner & Townsend)
Cc: Walsh, Jay (NES OVERSEAS USA LLC)
Subject: SS-2 Invoice Process

I have just been forwarded an ASCo invoice by Jay on which you have annotated ' This is for SS-2. Can you help with coding '. As I have been the cost engineer for SS-2 for the past 9 months and you are fully aware of this I can only assume this mis-direction to be a deliberate. Please explain why you are wasting our time in this manner ?

E-mail 18 of 61

Unknown

From: Abbott, Ken (SWIFT TECHNICAL SERVICES) [Ken.Abbott@bp.com]
Sent: Tuesday, February 03, 2009 1:10 PM
To: kwabbott@comcast.net
Subject: FW: Atlantis Document Numbering Procedure and Drawing Reviews/Approval by the leads
Attachments: 1400-10-AD-PR-0212.ZIP; 1440-10-PM-RP-0001 - Rev 3.ZIP

From: Abbott, Ken (SWIFT TECHNICAL SERVICES)
Sent: Wednesday, January 21, 2009 8:11 AM
To: Berger, Ron K (Manatee)
Cc: Curtis, Tinikka (NES)
Subject: FW: Atlantis Document Numbering Procedure and Drawing Reviews/Approval by the leads

Ron - here are the two drawing numbering/approval procedure that apply to our project. I said I would send these to you for your information...

From: Abbott, Ken (SWIFT TECHNICAL SERVICES)
Sent: Wednesday, December 17, 2008 9:54 AM
To: Mack, John G; Malone, Ryan P; Jondle, John J; Whitehead, David K (Technip); Schwebel, John; Mack, John G; Hughes, John D; Weber, Rick G; Price, Mike (Clover); Broussard, Danielle M; Kirkham, Benny (BAMA); Broman, William H(HOU)
Cc: Curtis, Tinikka (NES)
Subject: FW: Atlantis Document Numbering Procedure and Drawing Reviews/Approval by the leads

Team - In a previous staff meeting, John Hughes had some questions re our project document approval process and numbering process. I have attached the previously issued procedures that show the process involved for your information and use. If you have any questions, please advise..

From: Abbott, Ken (SWIFT TECHNICAL SERVICES)
Sent: Tuesday, December 02, 2008 2:56 PM
To: Broman, William H(HOU); Curtis, Tinikka (NES)
Cc: Curtis, Tinikka (NES)
Subject: FW: Document Numbering Procedure and Drawing Reviews/Approval by the leads

Bill - as per your request in the staff meeting this morning, attached are the following two documents.

The first is the GOM standard procedure for numbering drawings.

The second is our Atlantis Project Execution Plan, and section 6.2 through 6.4 details the processes for the leads to review and approve drawings, and how they should be numbered.

<<1400-10-AD-PR-0212.ZIP>>

<<1440-10-PM-RP-0001 - Rev 3.ZIP>>

Tinikka Curtis
Atlantis Subsea Project Team
Document Control
Tinikka.Curtis@bp.com
281-249-8978

bp

Gulf of Mexico
Deepwater Development Program

DOCUMENT NUMBERING GUIDELINE

DOCUMENT NUMBER: 1400-10-AD-PR-0212

REV	DATE	DOCUMENT STATUS	ORIGINATOR	CHECKED		APPROVED	
4	12/12/01	Revised for Consistency	SF	WRH		WCW	
3	10/15/01	General Revision – Update Sector, Discipline and Document Identifiers	SF	AF	PR	WCW	DER
2	08/23/01	General Revision – Updated Sector and Document Type Identifiers, Added Document Numbering Overview Chart,	SF	AF	PR	WW	DR
1	06/07/01	Approved for Use	GK	AF	PR	WW	DR
0	01/09/01	Issued for Review	GK	AF	PR	WW	RM
A	09/15/00	Internal Review	GK	SW		RM	

Document Control Number	Job Number	Area/Unit Designation	Discipline Code	Document Type	Sequence Number	Document Revision
	1400	10	AD	PR	0212	4

TABLE OF CONTENTS

1.0 SCOPE 3

2.0 GENERAL / DEFINITIONS 3

3.0 PROJECT COMMUNICATIONS 3

3.1 Correspondence 3
- **a. Project Numbers** 3
- **b. Sector Identifiers** 4
- **c. To / From Identifiers** 5
- **d. Correspondence Type Identifiers** 6
- **e. Sequence Number** 6
- **f. Sheet number for Multi-Sheet Documents** 6

3.2 Minutes of Meetings, Agendas and Non-Technical Document 6

4.0 Transmittals 7

5.0 TECHNICAL DOCUMENTATION 7

5.1 Numbering 7
- **a. Project Numbers Refer to Section 3.1.a** 7
- **b. Sector Identifiers Refer to Section 3.1.b** 7
- **c. Discipline Identifiers** 8
- **d. Document Type Identifiers** 8
- **e. Drawing or Sequence Numbering** 9
- **f. Sheet Number for Multi-Sheet Documents Refer to Section 3.1.f** 10

5.2 Revisions 10

5.3 Canceling Document Numbers 10

Attachments:

Attachment A	Minutes of Meeting
Attachment B	Technical Document Transmittal
Attachment C	Vendor Document Transmittal
Attachment D	Correspondence Transmittal
4 Attachment E	Technical Document Numbering Overview

1.0 SCOPE

This procedure provides a uniform and consistent method for assigning document identification numbers on the BP Deepwater Development Projects for project transmittals, correspondence and technical documents. This procedure does not apply to Mardi Gras.

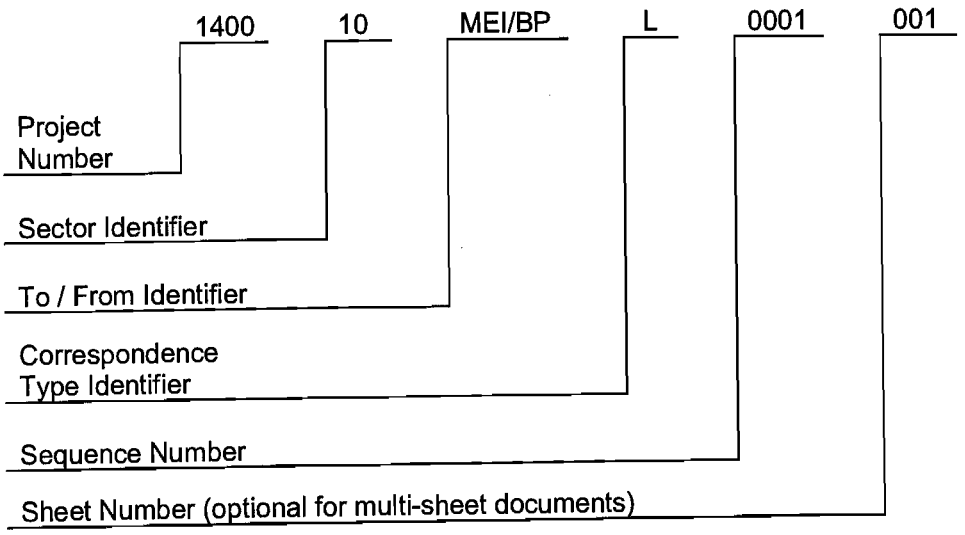
2.0 GENERAL / DEFINITIONS

- This numbering system is required for the BP Deepwater Development Program.
- All formal and informal documents distributed between BP, Contractors, Vendors, and other outside agencies will be assigned a document number in accordance with this procedure.
- The originator that initiates a document or correspondence is responsible for assigning the document number in accordance with this procedure.

3.0 PROJECT COMMUNICATIONS

3.1 Correspondence

- All outgoing correspondence and similar documents will be numbered per the following guidelines.



a. Project Numbers

A four-digit team or project number.

The following numbers have been assigned to the Deepwater Development Program:

4

- 1400 - PLT and PST
- 1410 - Thunder Horse Project
- 1420 - Holstein Project

- 1430 - Mad Dog Project
- 1440 - Atlantis Project
- 1480 – Mardi Gras Project

b. Sector Identifiers

A Sector Identifier is a unique identifier for project groups or components.

- 10 - General Project
- 20 - Topsides
- 25 - Integration
- 29 - Topsides Fabrication
- 30 - Subsea Well Systems (General)
  - 31 - Wellheads
  - 32 - Trees
  - 33 - Manifolds
  - 34 - Pipelines/Flowlines
  - 35 - Controls
  - 36 - Umbilical
  - 37 - Risers
  - 38 - Installation
  - 39 - Flexible
- 40 - Subsurface Well Systems (General)
  - 41 - Subsea Wellheads
  - 42 - Tree/Surface Wellheads
  - 43 - Risers
  - 44 - Production Riser Tensioning System
  - 45 - Drilling Riser Tensioning System
  - 46 - Well Bay Equipment
  - 47 - Installation
  - 48 - PRT Support System
  - 49 - Shipping and Handling Equipment
- 50 - Floating Systems (hull and mooring)
  - 51 - CSO – Houston
  - 52 - CSO – Finland
- 60 - Drilling Rig

- 70 - Installation
- 75 - Drilling
- 80 - Export Systems
- 85 - Operations
- 90 - Subsurface
- 95 - Commercial

NOTE: The second digit of the Sector Identifier is available to refine the meaning of the identifier. Any such modification must be agreed in writing and documented through revision of this document.

c. **To / From Identifiers**

- First group of characters designates the addressee
- Second group of characters designates the originator.

Typical To / From Identifiers are listed below. Additional identifiers may be added as needed by project and other groups. The Lead Project Secretary will maintain the full identifier list to ensure no duplication of identifiers:

- ABB ABB
- ABS American Bureau of Shipping
- AEI Aker Engineering, Inc.
- AKM Aker Maritime
- AT Atlantis Team
- BP BP
- THT Thunder Horse Team
- FMC FMC
- GVA GVA Consultants
- HMC Heerema
- HT Holstein Team
- HIT Holstein Installation Team
- INTEC Intec Engineering
- LOC London Offshore Consultant
- JRM McDermott
- MDT Mad Dog Team
- MEI Mustang Engineering, Inc.
- MGT Mardi Gras Team
- MMS Minerals Management Service
- PARAGON Paragon Engineering

- PRIDE Pride Offshore
- PLT Program Leadership Team
- PST Program Services Team
- USCG United States Coast Guard
- KWT Keiwit
- DSME Daewoo
- EXMO ExxonMobil

(4)

Where the To / From identifier field is utilized for contracts or purchase orders, the four-digit order number will be utilized as the identifier.

d. Correspondence Type Identifiers

CT	Correspondence Transmittal
EM	E-Mail
F	Facsimile
IOM	Interoffice Memo
L	Letter
MOM	Minutes of Meeting
NTD	Non-Technical Document
TCR	Telephone Conversation Record

e. Sequence Number

Four-digit number starting with 0001 assigned for each correspondence type.

f. Sheet number for Multi-Sheet Documents

A multi-sheet document is a document that extends over a number of sheets. All the sheets will be reviewed and approved individually and each will carry a revision number.

Sheet numbers are assigned sequentially starting with 01.

A multi-page document that is issued, reviewed and approved as a single document does not require sheet numbers, although page numbers may be used for clarity.

3.2 Minutes of Meetings, Agendas and Non-Technical Reports

Minutes of meetings, agendas and non-technical reports will not have a to / from identifier. Minutes of meetings, agendas and non-technical reports will have a unique identifier at that location in the document number that will define the type of document. Listed below are some typical identifiers for minutes of meetings, agendas and non-technical reports:

- MON Monthly Meeting
- PRG Progress Meeting
- SCH Schedule Meeting
- TM Technical Meeting

- VD Vendor Meeting
- WKLY Weekly Meeting
- AG Agenda
- RP Non-Technical Report

An example of the minutes of meeting numbering is shown on Attachment A.

4.0 TRANSMITTALS

Transmittals of Technical Documents and Correspondence Documentation shall be numbered in accordance with section 3.1 except that the correspondence type identifier will be replaced with a transmittal type identifier as indicated below.

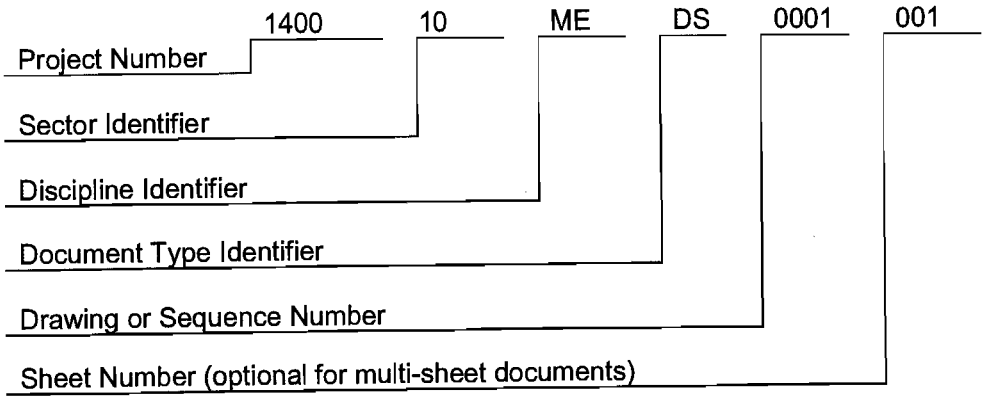
4

- T Technical Document Transmittal (Attachment B)
- CT Correspondence Transmittal (Attachment C)

5.0 TECHNICAL DOCUMENTATION

5.1 Numbering

All technical documents such as specifications, drawings, reports, etc. shall be numbered per the following guidelines: (Reference BP DWP – Technical Document Numbering Overview, Attachment E)



a. Project Numbers **Refer to Section 3.1.a**

b. Sector Identifiers **Refer to Section 3.1.b**

c. **Discipline Identifiers**

DISCIPLINE	IDENTIFIER	DISCIPLINE	IDENTIFIER
Project Management		Installation	
Administration	AD	Installation General	IG
Project Controls	PC	Installation Organization	HO
Financial	FN	Installation	HI
Assurance	AS	Marine Surveyor	MS
Interface	IF	Certified Verification Agent	CV
Information Mgmt	IM	Installation Equipment	HE
Project Management	PM	Installation Sketch	SK
Engineering		Contractual	CT
General	GE	Met-Ocean	MT
Process	PR	Dynamic Positioning	DP
Mechanical	ME	Tugs, Work Boats, AHTS	TU
Structural	ST	Barges	BA
Architectural	AR	ROV's	RO
Electrical	EL	Survey	SU
Inst. & Controls	IC	Ballast	BL
Fire & Gas	FG		
Communications	CM	Environmental/Regulatory	
Marine Engineering	MA	Environmental	EV
Naval Architecture	NA	Regulatory	RG
Piping	PI		
Hull	HL	Accommodations	AN
Drilling Systems	DR	Pipeline	PL
Corrosion & Paint	CP	Risers	RI
		Subsea	SB
Construction	CO	Flowlines	FL
Hook-Up & Commissioning	HU	Manifolds	MN
		Marine Outfitting	MO
		Mooring	MR
Facilities Operations	OP	Machinery/Utilities	MU
Drilling Operations	DO	Stability	SY
		Hydrodynamics	HY
Health & Safety	HS	HVAC	HV
		Weight	WT
Purchasing	PU		
Quality	QA		

4

d. **Document Type Identifiers**

Document type identifiers are as follows:

DB - Design Brief

PFD	-	Process Flow Diagram
PID	-	Piping & Instrument Diagram
DID	-	Duct & Instrument Drawing
ST	-	Studies
WC	-	Weight Control
SOW	-	Scope of Work
CR	-	Change Request
DSP	-	Decision Package
CP	-	Corrosion & Paint
UFD	-	Utility Flow Diagrams
DC	-	Design Criteria
DG	-	Drawing
DS	-	Data Sheet
SP	-	Specification
RP	-	Engineering Task / Philosophy / Report / Study
PR	-	Procedure
CA	-	Calculation
BOM	-	Bill of Materials
SK	-	Sketch
MA	-	Manual
LI	-	Lists / Indexes
EQ	-	Equipment List
BE	-	Bid Evaluation
MR	-	Material Requisition
INQ	-	Material Inquiry
PO	-	Material Purchase Order
CO	-	Purchase Order Change Order
VD	-	Vendor Data Requirements
IR	-	Inspection Requirements List
FM	-	Form
SCH	-	Schedule
SU	-	Submittals
TC	-	Comments to Technical Documents

e. **Drawing or Sequence Numbering**

A unique four-digit number assigned for each technical document. Each sector may choose to provide a block of sequence numbers based on disciplines or participating contractors within the sector. If this option is not chosen, the sequence number will be begin with 0001 for each technical document type.

For instrument or equipment data sheets, use the equipment/instrument tag number in place of the sequence number. For example, 1420-20-IC-DS-FV-2300.

Occasionally it will be necessary to prepare two data sheets for the same piece of equipment (i.e., centrifugal pump vs. reciprocating pump). The data sheets will be differentiated by a single digit sequence number after the equipment number (e.g., for pump service PBA-2300, the data sheet numbers would be DS-PBA-2300-1 and DS-PBA-2300-2). This practice shall only be employed during an RFQ cycle.

f. Sheet Number for Multi-Sheet Documents **Refer to Section 3.1.f**

5.2 Revisions

All documents will be issued with a revision number, which is not part of the document number. Revisions will be identified and controlled as specified in the contractors own engineering and design procedures.

5.3 Canceling Document Numbers

If an item is canceled, the document number is also canceled. After a document number is canceled, it may not be reassigned.

The original canceled document shall be marked "Void" and "See Drawing _____", and kept with the project records. The document register entry for the cancelled document shall be likewise annotated.

BP GoM
DEEPWATER DEVELOPMENT PROGRAM

17420 Katy Freeway, Suite 400
Houston, Texas 77094
Phone: (713) 350-7477 Fax: 713-350-7472
http://www.mustangeng.com

ATTACHMENT A

EXAMPLE

MEETING MINUTES

Meeting Purpose	**Weekly CH Topsides Status Meeting**	**Meeting Date**	**July 11, 2001**
Meeting Leader	**Larry Smith**	**Document No. 1410-20-WKLY-MOM-0009 Rev. 0**	
Meeting Scribe	**Larry Smith**		

ATTENDEES

Mark Doing
Pete LaCroix
Mike Carnahan
John Long
Angelo Accardo
Danny Howard
Laurie Erwin

Additional Distribution: **Mike Johnson, Frank Johnson, Lynn Johnson and Mark Johnson**

No.	Action By	Due	Action / Decision
01	L. Smith		Safety Minute – Vehicle Safety
02	L. Smith	Info	Overview of Topics discussed during the last meeting.
03	D. Smith		HAZID to be scheduled for the PFD's and Layouts for verification with original HAZID findings.
NEXT MEETING SCHEDULED:			Thursday, July 19, 2001 1:00 – 3:00

BP GoM DEEPWATER DEVELOPMENT PROGRAM		17420 Katy Freeway, Suite 400 Houston, Texas 77094 Phone: (713)350-7477 Fax: 713-350-7472 http://www.mustangeng.com	
Meeting Title:	**Weekly CH Topsides Status Meeting**	**Doc. No:**	**Document No. 1410-20-PM-MOM-CH-007 Rev.0**

ATTACHMENT A (Continued)

ATTACHMENT B

EXAMPLE

BP Deepwater Development

16285 Park Ten Place, Houston, TX 77084
Phone: (713) 675-3400 Fax: (713) 215-8478

TECHNICAL DOCUMENT TRANSMITTAL

Date **24-July-2001**

Transmittal No.: 1420-20-HT/MEI-T-0004

TO: BP Deepwater Development
16825 Park Ten Place
Houston, Tx 77084

Attention: Distribution

Re: Client: BP
Project: GoM Deepwater Development Holstein Project

Project Number: 142001

Subject Holstein Spar Topsides Weight and C.G. Report

We are sending the document(s) listed below for the following
"Issued for Information"

Notes:
"Holstein Confidential Work Product"

Number of Copies						
FS	FSR	SD	Oth	Document No.	Rev	Title
0	0	0	0	1420-20-GE-RP-0002	F	Topsides Weight and C.G. Report

Sincerely yours,

Thomas A. Gauthey, P.E.
MEI Project Manager-Holstein

Distribution
MEI/Other

Document Control (1420) - MEI, (email)
Grogan, Don - BP, (email)
Brumbaugh, Scott - MEI, (email)
Hafner, Ray - BP, (email)
Szush, Jim - JRM, (email)
Hunteman, Jim - MEI, (email)
Alexander, John F. - MEI, (email)
Price, Howard - MEI, (email)
Baird, Alan - BP, (email)
Johnson, Hugh - MEI, (email)
Pardue, Lee - BP@CAMI, (email)
Dewalt, Ken - MEI, (email)
Emmerson, Tony - BPWL, (email)
Gauthey, Tom - MEI, (email)
Bowman, Dale - BP, (email)
Doing, Mark - MEI, (email)
Guidry, Mike - BP, (email)
Hartill, Kelli - MEI, (email)
Spittler, Sue - CAMI, (email)
Caulfield, Keith - JPK@CAMI, (email)
Zwerneman, Farrel - MEI, (email)
Crane, Tom - BP, (email)
Burger, Steve - BP, (email)
Raabe, Tom - MEI, (email)
Jones, Gary - MEI, (email)
Littlefield, Burt - BP, (email)
Glazener, Ed - MEI, (email)
Jerrols, Linda - CAMI, (email)
Cavalier, Tim - JRM, (email)
Hungate, Martha - BP@CAMI, (email)
Drozd, Jimmy - MEI, (email)
Mok, Jin - MEI, (email)

Client

Legend: FS - Full Size; SD - Shot Down (11 x 17); FSR - Full Size Reproducible
Oth - Other; Resp - Responsible Engineer

ATTACHMENT C

EXAMPLE

Mustang Engineering, Inc.
16001 Park Ten Place
Houston, TX 77084
Phone: (713) 215-8000 Fax: (713) 215-8506

Vendor Document Transmittal

Date: Date
Vendor Name
Vendor Address
Vendor Address

Attention: Name

Transmittal No.:1410-20-CHT/MEI-V-0698
Package: 1029
P.O.: xxxx-406.0-004

S.O.: 97264
Client P.O.:

Re: Client: Client Name
Project: Project Name
Project Number: 6420

Gentlemen:

We are sending you the following documents:

Qty	Vendor Dwg. or Doc. No.	Rev	Title	Applies to PO Item	Status

SEE ATTACHED LIST

STATUS:
1. Manufacturer may proceed.
2. Manufacturer may proceed. Revise then resubmit final documents.
3. Manufacturer may proceed as noted. Revise and resubmit for review.
4. Not Correct - Revise and resubmit.
5. Manufacturer may proceed. Review Not Required.
6. For Information Only.
7. Void

REMARKS:

Please note the addition of PSLL-4740-C to the instrument air header
This is an internal transmittal only

NOTES:

1. All changes or additions must be reflected in a revision block or drawing number by an appropriate revision indication.
All changes to be clouded.

CC: Richard Shirley - T, Mike Hunt - T, Rick Bauknight - X, John Kealey - X, John Bagby - X, Don Alexander - X

Betty Dawley
Document Control

ATTACHMENT C (CONTINUED)

Mustang Engineering, Inc.
Vendor Document Transmittal

Transmittal No.:	1410-20-CHT/MEI-V-0698	Package:	1029
P.O.:	XXXX-406.0-004	S.O.:	97264
Date:	Date		

Qty	Document	Rev	Description	Applies to PO Item	Status
1	97264-15B	6	P & ID DUCT BURNER SECTION		1
1	97264-15C	6	FLAME RELAY WIRING DIAGRAMS		1

ATTACHMENT D

EXAMPLE

16001 Park Ten Place, Houston, TX 77084
Phone: (713) 675-3400 Fax: (713) 215-8478

BP Deepwater Development

CORRESPONDENCE DOCUMENT TRANSMITTAL

Date: **17-October-2001**

Transmittal No.: 1400-10-PROJ/PST-EM-0011

TO:

Re: Client: BP
Project: GoM Deepwater Development

Attention: Internal Distribution

Project Number: 1400

CC:
David Randolph - BP, (email)
Martin Thomas - BP, (email)
Phil Wicks - BP, (email)
File Copy - 1400.10.100.115.01.07 (TM)
Walt Weathersbee - BP, (email)
Brad Smith - MEI, (email)
Mike McCrary - BP, (email)
John Stokes - BP, (email)
Danny Boardley - MEI, (email)
Gary Collins - BP, (email)
Bob Raiders - BP, (email)
David Wisniewski - BP, (email)

Additional Recipients:

Subject: PSM Meeting

We are sending the document(s) listed below for the following reason:

"Issued for Information"

Y:\1400\10- GP\100 -PM\115 -CORR\01 -INT\01 -MOM\1400-10-TM-Mom-0011

This email was sent out on 10/17 to the Internal Distribution

This email can be found in the Y:\ drive as email 0011

Number of Copies					
FS	FS	SD	Oth	Document No.	Rev
1	0	0	0	1400-10-WKLY-MOM-001 1	n/a

Title
PSM Minutes of Meeting

Legend: FS - Full Size
FSR - Full Size
SD - Shot Down (11 x 17)
Oth - Other

Sincerely yours,

John Stokes
Facilities Leader

Printed on Thursday, Oct 18, 2001 @ 5:58 pm

BP DWP - TECHNICAL DOCUMENT NUMBERING OVERVIEW

Project No.	Sector	Discipline	Document Type	Sequence or Drawing No.	Sheet No.
1400	10	ME	DS	0001	1

PROJECT NUMBERS	
FLT, SCST, PST	1400
Thunder Horse	1410
Holstein	1420
Mad Dog	1430
Atlantis	1440
Mardi Gras	1480

SECTOR IDENTIFIERS	
General	10
Topsides	20
Integration	25
Topsides Fabrication	29
Subsea Wells System (General)	30
Wellheads	31
Trees	32
Manifolds	33
Pipelines/Flowlines	34
Controls	35
Umbilical	36
Risers	37
Installation	38
Flexible	39
Subsurface Well Systems (General)	40
Subsea Wellheads	41
Tree/Surface Wellheads	42
Risers	43
Production Riser Tensioning System	44
Drilling Riser Tensioning System	45
Well Bay Equipment	46
Installation	47
PRT Support System	48
Shipping and Handling Equipment	49
Floating Systems (hull and mooring)	50
CSO-Houston	51
CSO-Finland	52
Drilling Rig	60
Installation	70
Drilling	75
Exporting Systems	80
Operations	85
Subsurface	90
Commercial	95

DISCIPLINE IDENTIFIERS	
Project Management	
Administration	AD
Assurance	AS
Financial	FN
Information Management	IM
Interface	IF
Project Controls	PC
Project Management	PM
Engineering	
Architectural	AR
Communications	CM
Construction	CO
Corrosion & Paint	CP
Drilling Systems	DR
Electrical	EL
Fire & Gas	FG
General	GE
Hook-Up & Commissioning	HU
Hull	HL
Inst. & Controls	IC
Marine Engineering	MA
Mechanical	ME
Naval Architecture	NA
Piping	PI
Process	PR
Structural	ST
Installation	
Ballast	BL
Barges	BA
Certified Verification Agent	CV
Contractural	CT
Dynamic Positioning	DP
Installation	HI
Installation Equipment	HE
Installation General	IG
Installation Organization	HO
Installation Sketch	SK
Marine Surveyor	MS
MetOcean	MT
ROV'S	RO
Survey	SU
Tugs, Work Boats, AHTS	TU
Drilling Operations	DO
Facilities Operations	OP
Health & Safety	HS
Environmental/Regulatory (ER)	
Environmental	EV
Regulatory	RG
Accommodations	AN
Flowlines	FL
Hydrodynamics	HY
Machinery/Utilities	MU
Manifolds	MN
Marine Outfitting	MO
Mooring	MR
Pipeline	PL
Purchasing	PU
Quality	QA
Risers	RI
Stability	SY
Subsea	SB

DOCUMENT TYPE IDENTIFIERS	
Bid Evaluation	BE
Bill of Materials	BOM
Calculation	CA
Change Request	CR
Comments to Technical Documents	TC
Data Sheet	DS
Decision Support Package	DSP
Design Brief	DB
Design Criteria	DC
Drawing	DG
Drawing Attachment Drawing	DAD
Engineering Task/Philosophy/Report/Study	RP
Equipment List	EQ
Form	FM
Inspection Requirements List	IR
Lists / Indexes	LI
Manual (or Plan)	MA
Material Inquiry	INQ
Material Purchase Order	PO
Material Requisition	MR
Piping & Instrument Diagrams	PID
PO Change Order	CO
Procedure	PR
Process Flow Diagrams	PFD
Schedule	SCH
Scope of Work	SOW
Sketch	SK
Specification	SP
Studies	ST
Submittals	SU
Utility Flow Diagrams	UFD
Vendor Data Requirements	VD
Weight Control	WCN

BP

Well Systems Integration & Design Engineering

SUBSEA PROJECT EXECUTION PLAN

BP ATLANTIS CONFIDENTIAL WORK PRODUCT

BP Doc. No.: 1440-10-PM-RP-0001			**Doc. No.:** 3478-BPM-RA-0001			
Rev. No.	**Rev Date**	**Revision Description**	**Prep. By:**	**Technip Chk'd.**	**Technip Approved**	**Client Approval**
A	2/11/02	Program PEP	EHM	JLB	JLU	
B	8/29/02	For Review and Approval	JLB	CJR	CME	
C	4/22/03	For Review and Approval	AW	RKO	CH	SSW
0	10/29/03	For Information	RKO	JK	AW	SSW
1	11/09/04	Revised as Noted	AW	CG	AW	
2	1/19/06	Revised as Noted	AW	HW	AW	
3	11/06/06	Revised as Noted‡	PC	MV	AW	RM

FOREWORD

‡The PEP covers the Atlantis project as sanctioned which includes a single riser, flowline and single umbilical installation campaign. Revision 3 covers alternate installation campaigns and the Alternate Development Concept (ADC), also known as Subsea Systems Phase 1 (SS1), to allow for installation flexibility in response to current indirect factors and restraining activities so as to achieve 1st oil as scheduled as well as the future development in the form of DC 3 Atlantis North Flank. The provision of installation flexibility and future development of Atlantis Subsea includes the following options:

Prelay:

The prelay option was developed to allow for the selected riser flowlines early in the filed development to be laid and left on the seabed while waiting for the delivery of the PQ. Details of the prelay campaign will be included in Attachment 12 of this document as required.

Split Campaign

The spilt campaign was developed to further increase the installation flexibility, due to the availability of the heavy lift vessel (Balder) and other restraining activities. The split campaign would allow for 1st oil to be delivered from one half of the field followed as scheduled and at a later date with installation of the riser and flowlines for the remaining half of the field. Attachment 11 details the Split Campaign.

Atlantis North Flank DC 3

Development associated with the Atlantis North Flank (DC3) is covered in this PEP document with details found in Attachment 9.

Subsea Systems Phase 1(SS1) / Alternate Development Concept (ADC)

Following the discovery of potential welding issues with BP Thunderhorse manifold DC41, the Atlantis project team immediately initiated investigation and development of the ADC since the Atlantis manifolds and PLETs were welded with similar practices and procedures to those of the Thunderhorse manifold. As of October 2006, the ADC will be known as Subsea Systems Phase 1 (SS1). Attachment 13 will cover the specific PEP issues associated with the SS1. The SS1 details are documented in Attachment 13.

TABLE OF CONTENTS

1.0 EXECUTIVE SUMMARY - INTRODUCTION 6
1.1 Subsea System Project Overview 7
1.2 Scope of Work 8
1.3 Future Provision 10

2.0 HEALTH, SAFETY AND ENVIRONMENTAL PLAN 11
2.1 General 11
2.2 Formal Safety Assessment (FSA) Plans 11
2.3 Security Plan 13

3.0 **PROJECT MANAGEMENT - ADMINISTRATION 16**
3.1 Project Identification 16
3.2 Management Philosophy 18
3.3 Project Organization Plan 20
3.4 Correspondence 24
3.5 Project Document Control 26
3.6 Project Meetings 26

4.0 PROJECT MANAGEMENT - PROJECT CONTROLS 27
4.1 Project Controls Overview 27
4.2 Scheduling 27
4.3 Estimating 29
4.4 Project Services Plan / Cost Control and Forecasting 30
4.5 Change Control and Management of Change 32
4.6 Progress Measurement 32
4.7 Risk Assessment and Management 34
4.8 Reporting Requirements 38
4.9 Invoicing 39

5.0 QUALITY AND QUALITY PLAN 40
5.1 Quality Scope of Work 40
5.2 Quality Audits 41
5.3 Inspection and Testing 41
5.4 Corrective Action Process 42
5.5 Quality Records 42
5.6 Reporting 42
5.7 Quality Assurance Plan 43

6.0 TECHNICAL MANAGEMENT PLAN - ENGINEERING CONTROL 45
6.1 Engineering Scope of Work 45
6.2 Design Criteria Document 48
6.3 Engineering Deliverables Numbering System 49
6.4 Engineering Deliverables Preparation 49
6.5 Mechanical Equipment Numbering 49
6.6 Engineering Design Symbols 50
6.7 Design Reviews 50

6.8 Best Practices 51
6.9 Value Engineering Plan 52
6.10 Design Freeze Log 54
6.11 Areas of Concern - Critical Issues 55

7.0 INTERFACE MANAGEMENT 56
7.1 Interface Management Overview 56
7.2 Interface Management Scope and Objectives 56
7.3 Basic Tenets of the Interface Management System 57

8.0 PROCUREMENT AND PROCUREMENT PLAN 58
8.1 Procurement Scope of Work 58
8.2 Procurement Document and Material Control 58
8.3 Request for Quotations, Work Package Release and Requisitions 59
8.4 Bid Receipt and Evaluation 59
8.5 Purchase Order Award 59
8.6 Post Award Administration 60
8.7 Procurement Close Out Requirements 60

9.0 CONSTRUCTION PLAN 61
9.1 Construction Scope of Work 64
9.2 Constructability Plan 64
9.3 Contracting Plan 67
9.4 Project Management Plan 68
9.5 Operability 69
9.6 Transportation Plan 71
9.7 PQ Integration Plan 73
9.8 Offshore Installation Plan 73
9.9 Severe Weather Contingency Plan 76
9.10 Offshore Logistics 76
9.11 Subsea Commissioning and Start-up Plan 76
9.12 Operations Plan 76
9.13 First Year Production Efficiency Plan 77

ATTACHMENT 1 78
Atlantis Project Organization Charts 78

ATTACHMENT 2 83
Atlantis Key Representatives and Addresses 83

ATTACHMENT 3 84
Project Meetings Calendar 84

ATTACHMENT 4 85
Work Breakdown Structure (WBS) Diagrams 85

ATTACHMENT 5 86
Schedules 86

ATTACHMENT 6 ..... **87**
"BP Data Security and Information Brokering" 87

ATTACHMENT 7 ..... **88**
INTERNATIONAL TRAVEL REQUIREMENTS FOR CONTRACTORS" 88

ATTACHMENT 8 90
BPs GOLDEN RULES OF SAFETY 90

ATTACHMENT 9 ..... **91**
DC3 Specifics 91

ATTACHMENT 10 ..... **99**
BP Atlantis Project Final Vendor Data Book Letter 99

ATTACHMENT 11 ..... **102**
Split Installation Campaign 102

ATTACHMENT 12 ..... **112**
Prelay 112

ATTACHMENT 13 ..... **114**
Subsea Systems Phase 1 (SS1) 114

1.0 EXECUTIVE SUMMARY - INTRODUCTION

The purpose of the Subsea Systems Project Execution Plan (PEP) is to define the strategy of the Subsea Systems Team in supporting the Atlantis GOM Deepwater Development Project on behalf of BP Exploration & Oil Inc. (BP) and BHP Petroleum (GOM) Inc. (BHP). This PEP for the Subsea Systems project complements and is subordinate to the overall Atlantis Project Management Plan (1440-10-PM-PR-003).

This plan is coordinated with the individual plans provided by the other major project teams, including the Floating Systems (comprising Hull and Topsides), the Wells and Operations Teams. In addition, this document is complemented by supporting plans provided by the prime contractors responsible for the design, supply and installation of the Subsea equipment. These individual PEPs complement the Subsea Systems PEP and are included as Appendices under separate cover.

All of the plans are written as point-forward, living documents and, as such, will be updated and distributed as major strategic issues evolve or change. The prime contractors will also maintain their individual plans and review and update these documents as the need arises.

The Subsea System associated with the Atlantis Project, together with the other major BP GOM deepwater projects (Thunder Horse, Mad Dog and Holstein) are being developed under various long-term contracts for engineering services and equipment. These contracts contain some commercial commonality and technical standardization features to ensure maximum cost effectiveness to BP. The overall project work is planned to occur in 3 distinct phases: Select Phase (Concept Development), Define Phase (FEED) and the final Execute Phase in which detailed engineering occurs and firm hardware orders are placed.

The Atlantis North Flank Single Well Tie-back Project, Project Execution Plan (PEP) (Define Phase), Document Number: 1440-10-PM-RP-0002 forms the basis for the development of the Atlantis North Flank single well tie-back. It includes the engineering, procurement, construction, and offshore installation activities required to tie-back and complete subsea production well (GC743#5ST) and to ensure the operability and expandability of the subsea system. Project scopes associated with the Atlantis North Flank single well developments are: drilling (tie-back) operations and completion of the well, installation of subsea tree, manifold, intermediate PLET, flowlines, jumpers, umbilical, and minor topsides control modifications. ANF/DC3 passed through the select / define gate by BP on 12/22/04 and by BHP on 10/05/05. It is expected that in Mar 06' Atlantis DC3 will pass through the execute phase. Document number 1440-30-PM-DSP-0209, North Flank (DC3) System Selection (Decision Support Paper 1) discusses the system options and configuration selection for the

DC3 development. It is planned for the ANF/DC3 Subsea team to operate in accordance with this existing plan, however it becomes necessary to be able to include additional information to the base case document and also highlight deviations (to this PEP) where they will exist, this will be achieved by marking paragraphs where changes are required and the specific ANF/DC3 changes will be captured in Attachment 9.

NOTE: A footnote will be added to paragraphs in this document with an asterisk to indicate where specific variations have been adopted for ANF/DC3 execution.

1.1 Subsea System Project Overview

Atlantis Field

The Atlantis Field is located along the Sigsbee Escarpment in Green Canyon Blocks 699, 700, 742, 743 and 744, approximately 190 miles south of New Orleans. The field is part of the Southern Green Canyon trend, lying adjacent to the Mad Dog and Neptune discoveries and to the south of Holstein. Mad Dog and Holstein are currently being developed and will also be operated by BP. The Atlantis discovery well, GC 699, reached total depth on June 6, 1998. The first appraisal well, GC 743 ST1, reached total depth August 22, 2000 and the second sidetrack was completed on October 15, 2000. A second appraisal well, GC 743 #2, reached total depth in August, 2001, and a sidetrack finished in October, 2001.

Atlantis will be developed using a moored semi-submersible as a production and quarters (PQ) facility with Subsea trees tied back to the PQ host using Steel Catenaries Risers (SCR's). The produced oil and gas fluids will be exported by means of the Mardi Gras 24-inch oil pipeline and 16-inch gas pipeline.

The overall development plan addresses the key reservoir uncertainties present at Atlantis: namely container size (STOOP), compartmentalization, reservoir energy and heterogeneity. To support the PQ host facility, a separate dynamically positioned (with mooring capability) long-term drilling unit (LTDU), known as the Development Driller II (DDII), operated by Global Santa Fe, will be contracted for all drilling, completion and well intervention work. In addition, the DDII will also be capable of installing seafloor equipment such as manifolds, production/water injection trees, etc. The production facilities will be designed for 150 mbopd*, 75 mbwpd produced water and 180 MMCFD total gas processing capacity. Of the 180 MMSCFD total gas capacity, 60 MMSCFD is designated for riser-based gas lift, to be available at field startup. Water injection capability of 75 mbwpd will be installed from First Oil. The PQ will have sufficient space and payload available for future expansion. Payload

* Upgraded to 200 mbopd; refer G. Sills letter 27 Sept 04, "Atlantis – State of the Project"

associated with the PQ for the subsea team is tracked by submittal of a monthly Weight Management report.

The Atlantis Field's current P50 estimated recoverable reserves for the Atlantis Sanction case are 560mmboe, which includes NGLs less fuel. The field will be developed with approximately 20 wells, within a range of 13 – 30 wells. The 20 wells include 16 producers and 4 water injection wells. Nearly every well will have a future re-completion or sidetrack capability. The Operator in its depletion plan envisions an average of approximately 16 mmboed/well activity. With the 560 mmboe reserve basis, the production plateau length is estimated to be 6 years. The pre-drill program of 5 wells (drill and complete) is scheduled to begin in 1Q, 2004.

Owners' Interests

Atlantis is a joint venture development; the partner's interest is BP (56%) and BHP Billiton (44%). BP is the operator of the overall development.

1.2 Scope of Work

The Subsea Team's scope of work includes engineering, procurement, fabrication and commissioning of the Subsea Production System. The specific responsibilities and roles of the Subsea System Team in bringing this equipment together are addressed in Section 6.1.

The Subsea trees will be connected to the wellheads with the flowline connectors connected to manifolds by means of rigid jumpers. Additional satellite production and water injection wells are planned to support the total production requirements. The production trees will be provided with remotely actuated adjustable chokes to provide flow and pressure control. The production manifolds will serve as gathering points for the production wells and a separate water injection manifold will distribute water to the injection wells. Each of the Subsea manifolds will be designed to serve 4 wells. Initially, four of the 4-well manifolds are planned but the ultimate number of manifolds will be dictated by the field reservoir requirements. All manifold* valves will be manually (ROV) actuated. The production, test and water injection headers of each manifold will be piggable. The design of the manifold has been carefully considered to minimize corrosion and the formation of hydrates. All production manifold headers will be insulated and the entire manifold structure will be cathodically protected for the 20-year design life of the Subsea system.

The trees will be operated by an electro-hydraulic multiplexed control system. Electrical power and control signals, hydraulic power and chemical supplies will be supplied to the

* The manifolds are modified in the ADC concept. See attachment 13 for the specifics.

trees through flying leads. A Subsea control module (SCM) will decode the electrical signals and direct hydraulic power to the various tree functions. The SCM will also receive the output of the tree's data acquisition system and transmit the information to the surface. The data acquisition system incorporates pressure and temperature transmitters, sand detectors, choke position indicators and flow meters (water injection trees). The SCM will be installable and retrievable underwater using a ROV actuated, wire line-deployable tool. All control functions will be controlled from the topside-installed Master Control Station (MCS).

The electrical and hydraulic umbilicals, flying leads and Umbilical Termination Assemblies (UTAs) comprise a distribution network for the Subsea controls system. They provide the power and control interfaces between the topside MCS, SCM and individual Subsea components.

The initial development phase of Atlantis envisions 4 production risers, 1 water injection riser and 1 test riser. All production and test risers are 10" in 16" Pipe-In-Pipe (PIP) design, incorporating a 10.75 in. OD X 0.75 in. WT thickened jacket pipe over a distance of 5,290 ft. below the hang-off and a subsequent 3,440 ft. of 1.25 in. WT thickened jacket pipe to a distance of a point 120 ft. beyond the TDP. All production flowlines and risers will be insulated and Vortex Induced Vibration (VIV) strakes added where necessary. Additionally, the risers will be fitted with buckle arrestors and cathodic protection anode bracelets where appropriate. A design life of 25 years has been used in the riser and flowline designs. All risers will be supported from the PQ host pontoon deck and terminate at the main deck where a diverter block, inclusive of an isolation valve, will be attached. The water injection riser is of simple monobore design, incorporating a 10.75" OD x 1.50" carbon steel WT pipe with VIV strakes and appurtenances as for the production and test risers.

The Atlantis Field depth ranges from 4,400 – 7,200 fsw and extensive use will be made of diverless systems and ROV interfaces. All major support operations for the Subsea system will be diverless. ROV interfaces will be provided on the Subsea equipment to facilitate installation, testing, operation and inspection. Where appropriate, running tools and/or surface wires will be used to install and retrieve Subsea equipment components.

In the event that installation cannot be conducted as per the base case schedule, a split campaign could be envisioned. Such a campaign will be conducted under the M.O.C. (Management of Change) requirements. Attachment 11 will described the Split Campaign installation implications, process requirements, Atlantis sub team buy-ins and approvals etc.

Additionally, a prelay campaign for the flowlines could be envisaged to capitalize on vessel opportunities due to any unforeseen delays to the Atlantis schedule. The prelay campaign is documented in attachment 12 in this document.

1.3 Future **Provision**

The Subsea Production system will be capable of being expanded to allow tie-in of future wells, manifolds, risers and flowlines, all feeding from identified or unidentified drilling sites. A total riser count of sixteen (16) will be within the capability of the host PQ vessel. In addition to the eight (8) base case umbilicals, the PQ will be capable of accepting an additional sixteen (16) umbilicals. This will total to a maximum of twenty-four (24) umbilicals as currently conceived for the Atlantis PQ.

Well 734-5 lies on the upper level of the Sigsbee escarpment in 5400 FSW, while Drilling Center DC1 lies to the south at the foot of the escarpment. ANF/DC3 is set up as a separate project within the Atlantis project. To capitalize on the expertise which is available within the subsea delivery team, ANF/DC3 will make use of standard Atlantis equipment where possible and exercise the synergies that exist within the current engineering and design team. The development of ANF/DC3 PEP attachment makes use of the present Atlantis Subsea PEP as a building block and incorporates ANF/DC3 specifics. These specifics will be captured and updated in Attachment 9 of this document accordingly.

2.0 HEALTH, SAFETY AND ENVIRONMENTAL PLAN*

2.1 General

This section describes the planned Health, Safety and Environmental (HSE) policies and procedures for the integrated Atlantis Subsea Team to ensure that the project's design, construction and installation activities are safe and environmentally sound. The policies and procedures are designed to meet all applicable government regulations and API recommended practices.

The Atlantis Project Subsea HSE Plan, BP document no.: 1440-30-HS-RP-0081 (Technip Document No: 3478-BHS-RA-0001), was developed for the Subsea Team to facilitate the implementation of Getting HSE Right (GHSER) and provide guidelines on how the project will attain the Best-in-Class health and safety performance throughout all phases of design, construction and transition into operations. The Subsea Project Health and Safety Plan provides the framework needed to enable the Subsea Team, including contractors and interested outside parties, to understand how health and safety is managed and delivered on the Atlantis Project, and how accountabilities are set out at various levels of management. The plan specifically outlines the following:

- Subsea Project HSE Organization and Responsibilities
- Hazard Assessment and Management
- Health and Safety Training requirements for Team Members and Contractors
- Safe Work Practices and use of Advanced Safety Audits (ASA) and the use of Safety Training Observation Program (STOP) cards
- Contractor Health and Safety
- Regulatory Requirements
- Environmental Policies
- Performance Standards and Document Control
- Crisis and Emergency Management
- Health and Safety Performance Monitoring

The Atlantis Subsea Project HSE Plan is considered a living document and is updated to reflect project stage changes.

2.2 Formal Safety Assessment (FSA) Plans

Hazard management will ensure that all HSE risks appropriate to each phase of the Atlantis Project are satisfactorily addressed. This effort will begin in the concept selection phase and

* See attachment 9 for ANF/DC3 specific requirements

mature progressively through detailed design, construction and operating phase. It will also incorporate consideration of future decommissioning and abandonment operations. The Atlantis Subsea Team will identify, evaluate, and manage HSE hazards to acceptably low levels of risk in accordance with the BP Hazard Management Strategy (1400-20-RP-6000).

Formal Safety Assessments (FSAs) are used to identify hazards associated with the Subsea equipment and to mitigate those Hazards on a cost/benefit basis. Beginning with a Define Phase preliminary HAZOP, the Project Team will conduct a variety of risk analysis reviews including:

- HAZOPs
- HAZIDs – Design Focused
- HAZIDs – Activity Focused
- SIMOPs Reviews
- Operability Reviews (included with HAZOPs)
- Peer Reviews
- Assurance Related Activities

All FSAs will be conducted in accordance with API RP 14J, "Design and Hazards Analysis for Offshore Production Facilities."

The output of these activities will result in a list of potential risks complete with a subjective rating of risk level and potential mitigation actions. A subjective risk reduction will be identified and tracked to closure with each potential mitigation action. These risk items will be delivered to the design teams for incorporation into the design as appropriate. Timing of these activities can be found in Table 2.2-1.

Table 2.2-1: MAJOR HSE ACTIVITIES

Description	Timing	
Preliminary HAZOP	March 2001	(Completed)
HSE Plan	Dec 2001	(Completed)
Subsea Execution Risks	Feb 2002	(Completed)
Operability Review	April 2002	(Completed)
Hazard Tracking Register	June 2002	(Completed)
Operability Workshop	August 2002	(Completed)
Main Subsea Hazop	Oct 2002	(Completed)
HSE Training	July 2002	(Completed)
Installation HAZID	Early 2004	(Completed)
Performance Standards	Integrity HAZAN	TBD

Table 2.2-1: MAJOR HSE ACTIVITIES		
Description	**Timing**	
Chain Jack SCR Pull-In Equipment HAZID	May 2004	(Completed)
Bayou Coating Risk Assessment (HAZID)	August 2004	(Completed)
Umbilical Installation HAZID	October 2004	(Completed)
Simultaneous Operations (SIMOPs)	December 2004	(Completed)
Manifold SIT HAZID	January 2005	(Completed)
Flowline & Riser Installation HAZID	January 2005	(Completed)
Bredero Lessons Learned Session – Thunderhorse and Mardi Gras Projects	February 2005	(Completed)
Umbilical Testing HAZID	March 2005	(Completed)
Umbilical Load Out HAZID	March 2005	(Completed)
Umbilical Installation Procedures HAZID	August 2005	(Completed)
Manifold Installation HAZID	October 2005	(Completed)
Tree and IWOCS Installation Hazid	October 2005	(Completed)
Jumper Fabrication Hazid	December 2005	(Completed)
Jumper Installation Hazid	January 2006	(Completed)
Flowline and Riser Acceptance Testing Hazid	January 2006	(Completed)
Subsea QA System Leak Test Procedure Hazid (Assurance)	January 2006	(Completed)
Remote Pull-In Hazid	January 2006	Completed)
Half Shell Handling Hazid	January 2006	(Completed)
Flowline & Riser Installation Lay & Pull-in Hazid	January 2006	(Completed)

2.3 Security Plan

The Atlantis Project Team will implement a Security Management System to assess and mitigate the losses associated with security issues. The objective of the Security Management System will be to:

- Protect people, property, information and reputation
- Minimize economic losses and business interruption

The Security Management System will be in compliance with all appropriate standards and develop individual and collective security awareness and responsibility. The Project Team will be fully responsible for supervision of its personnel to ensure that they strictly adhere to

all applicable security requirements. The Project Team will also ensure that the security systems of its contractors and suppliers are consistent with its own.

The Security Management System will address the following requirements for each individual asset:

People: The Project Team will have a program in place to create security awareness for the Projects own and associated staff as well as the contractor's own, subcontracted and associated staff. The program shall address appropriate protection measures relative to the execution of the work or to Project and contractor offices.

The Project Team will ensure that personnel who travel for the Project are covered by a travel management system (refer BP Travel Policy, Revised April 2001 and AMI-ST-HS-0029 Travel, Health, Safety and Security Guidelines). This management system includes preferred methods of transportation (e.g. approved airlines, ground transport services, etc.), and contingency plans in case of a security breach. The travel management system administrators have an ongoing process to identify and regularly review the nature of potential security threats and vulnerabilities, update security and contingency plans in response to changes in security risks and assist local authorities in the evacuation of personnel. All security breaches shall be reported to the Project within twenty-four hours. The Project Team may be required to file formal reports of such breaches or assist local authorities or investigation of such breaches.

Property: The Project Team will secure material assets (e.g. offices, installations, field sites). The measures will include perimeter security, access control, vital point protection and communications. Contractors shall have a security plan for all sites where Project work is to be performed. This program should include a 24 hour manned security entrance and exit and secured facilities for storage of equipment and materials or as deemed appropriate by the BP Leads and as approved by the Delivery Manager...

The Contractors will be responsible to demonstrate to the Project Team that all security risks that fall under the contractor's responsibility have been reduced to a level that is As Low as Reasonably Practicable.

Information: The Project Team will safeguard all information including that in electronic or written format. This includes the confidentiality, integrity and availability of information in all locations including the Projects own premises.

Project documentation security requirements:

All documentation is required to be labeled "Confidential Work Product" and is not to be disclosed to third parties. All members of the Atlantis project team will be kept updated on current project document locations for up-to-date access to relevant documents.

All employees and contractors are required to sign a "Confidentiality and Intellectual Property Agreement".

All employees receive a power point presentation entitled "BP Data Security and Information Brokering", herein contained as Attachment 6.

Access to documents (electronic and hard copy) will be controlled.

Reputation: The Project Team will ensure that the legacy from its operations will not adversely affect the reputation of BP or any associated contractors/suppliers.

Travel and Offshore Related Safety Issues

- Driving Safety
  As of January 1, 2005 the "BP Group Functional Standard – Personnel Safety – Driving" replaces the Group Road Safety Standard and supersedes the Golden Rules of Safety – Driving. Further information and mandates can be found in the "Driving Standard – Immersion testing Phase – Study Guide" – "10 Steps to Arrive Safely" which can be found on http://hsse.bpweb.bp.com/DrivingSafety/
- International Travel on Atlantis business requires the traveler have a Travel Health Assessment and recommended immunizations prior to travel.
- BP personnel traveling internationally on business are required to have Travel Health Assessments and recommended immunizations prior to travel. The WestLake 1 Medical Department provides the following resources to BP employees:
  - Medical Assessment
  - Immunization Review and Update
  - Country-specific Consultation
  - General Health Protection Consultation
  - Provision of a Travel Kit (charged to Traveler)
  - SOS Card
- Technip personnel are responsible for arranging their medical requirements through arrangements with Suburban Physicians Center (281-679-5600).
- Subsea team members traveling offshore shall be in possession of a valid "License-to-go-offshore" and Water Survival Certificate or training card.
- All contractor/vendor personnel working offshore on a BP facility are required to have completed Safegulf and BP 6-in-1 Training.

3.0 PROJECT MANAGEMENT - ADMINISTRATION

3.1 Project Identification

Unique project identifiers for the Deepwater Development program have been identified for each of the projects. These are listed below:

DW = Deepwater Development Program (includes FLT – Facilities Leadership Team; SCST: Standardization and Contract Strategy Team; and PST: Program Services Team)
TH = Thunder Horse
HO = Holstein Project
MD = Mad Dog Project
AT = Atlantis Project
MG = Mardi Gras Project
ANF = Atlantis North Flank

In addition, discipline identifiers to be used within the Atlantis project are listed below:

CM = Commercial
CP = Completions
DR = Drilling
FAC = Facilities
FS = Floating Systems
HSE = Health, Safety, Environment
HUC = Hook-Up and Commissioning
IN = Installation
OP = Operations
PM = Project Management
SC = Subsea
SS = Subsurface
TS = Topsides

The BP Project reference number for the Atlantis Project is 1440; the Technip project number for the Subsea portion of the project is 3478.

3.1.1 Goals and Objectives

The Subsea Systems Team goals and objectives are fully aligned with those of the overall Atlantis Project. These goals and objectives are partly expressed in the following:

Atlantis Project Business Goals

The primary business goal of the Atlantis project is to develop the oil and gas reserves discovered in the Atlantis fields in a safe, environmentally responsible, cost-effective and timely manner that maximizes the value to the Atlantis owners – BP and BHP Billiton.

Measures that will demonstrate success in achieving these goals are:

- Excellent HSE performance: no accidents, no harm to people, no damage to environment
- Development cost of less than $3.5 per barrel of oil equivalent relative to 2000 oil prices.
- Sustainable oil and gas production by 1Q, 2007
- High first year operability
- Pre-sanction by March 31, 2002
- BP sanction by December 1, 2002

Project Objectives and Drivers

Key project objectives have been derived from the business goals and are listed below to help drive decision-making. The overall driver for the project is to create value and the challenge to the Atlantis Project Team is to seek the right balance between the following objectives to maximize value:

- Schedule: Deliver production by 1Q, 2007 with high confidence.
- Schedule: Deliver production from ANF/DC3 by 3Q, 2007.
- CAPEX: Less than $3.50 per barrel for facilities and drilling costs relative to 2000 oil prices.
- Maximize first year operability and life cycle operating efficiency.
- Provide flexibility to deal with Atlantis reservoir uncertainty.
- Design for inherent health and safety.
- Utilize all Program synergies.
- Maximize delivery from wells at first oil.
- Provide step change in execution of safety performance.
- Establish operating phase strategies and metrics for life cycle performance.
- Design to minimize environmental impacts.

3.1.2 Project Mission

The Mission of the Atlantis Project is to plan, evaluate, design, engineer, procure, build, install and start-up a deepwater facility that can be safely and continuously operated to deliver oil and gas to the Mardi Gras Transportation System in an environmentally responsible manner. The project must meet Owner economic criteria that are impacted primarily by cost, time and production rates, and must meet product delivery specifications defined by the export systems. The project will also fulfill the expectations of "Getting HSE Right" (gHSEr).

3.1.3 "Subsea Team" Approach

The Atlantis Subsea Systems Team (SST) is committed to meeting the Project Goals and Objectives as described above most effectively by using a strong team approach, including and empowering not only BP Lead Engineers and Managers, but key representatives from the prime contractors. By building on the experience and past successes of each team member, we will employ these skills and tools to reach our primary Mission to design, engineer, procure, build, install and start-up the Atlantis Subsea equipment on time, on budget and in an environmentally responsible manner.

3.2 Management Philosophy

Current BP management systems and practices will be used to the fullest by the Atlantis Subsea Systems Team and will be exported to the extent possible to each of the prime contractors. These systems and practices include:

3.2.1 Capital Value Process (CVP)

BP has implemented a powerful management tool to plan, guide and document project decisions and considerations. The CVP includes the following major features:

- Planned stage gate dates (Select, Define and Execute)
- Risk and uncertainty assessments
- Peer reviews (Appraise, Select, Pre-sanction, Mid-term and Pre-startup)
- External Benchmarking
- Value improving practices

In addition to the CVP process, the BP Major Project Common Process (MPCP) was introduced in 1Q 2005 and will be implemented for the ANF/DC3 and follow on future Atlantis projects.

3.2.2 Continuous Improvement

BP's Continuous Improvement (CI) Process will be used by each of the project teams in the course of the work. The SST members will serve as facilitators at the team meetings of the prime contractors to implement this management technique or reinforce similar processes already in place.

3.2.3 Reward and Recognition

The BP system of Rewards and Recognition (R&R) has proven effective for the company as a whole and will benefit the Subsea Team and prime contractors as well. Superior performance and dedication is commended openly on a regular basis. Typically, tokens of appreciation will be given to commemorate team and individual contributions towards the completion of major or critical milestones.

3.2.4 Document Hierarchy

The following document hierarchy illustrates the management documents that will be used as tools for communicating internally and externally to the Atlantis Project Team:

- **Statement of Requirements (SOR),** BP Document No. 1440-10-AS-DC-0001. The SOR is at the highest tier. It provides an overview of BP expectations from the Project Team and initiates the development of work and documentation to manage the project.
- **Design Basis (DB)**, BP Document No. 1440-30-SB-DC-0033. The DB defines what is to be built, is at the second tier of the hierarchy along with the Project Management Plan, Schedule and Organization Plan.
- **Project Management Plan**, BP Document No. 1440-10-PM-PR-0003. Contains the strategies for how to accomplish the project and the plans and procedures for processes that are common to all delivery teams of the project.
- **Project Schedule,** BP Document No. 1440-30-PC-SCH-0086. The overall Project Schedule organizes when the scope of work and deliverables need to be done and shows the dependencies of one delivery team on another.
- **Project Organization Plan**, refer to sections 3.3 through 3.6 of this document. The Project Organization Plan defines who is accountable for the work and how they relate to one another.

The documents in the third tier represent the level of detail needed by the Project Team and its contractors. These include:

- Design Criteria
- Project Execution Plans
- Detailed Schedules

- Organization Plans

3.3 Project Organization Plan

Project organization charts are presented in Attachment 1 – Atlantis Project Organization Charts. Both position titles and names of assigned individuals are shown. The following organization charts are included:

- Atlantis Subsea Project Team
- Atlantis Subsea Riser/Flowlines & Installation Team
- Atlantis Facilities Team
  - Atlantis Floating Systems Team (Team has been diluted and Chart Removed as PQ has been delivered effective 3Q 2006)
  - Atlantis Project Services Team (See Atlantis Project Team)
- Atlantis Leadership Team See Section 3.3.2

3.3.1 Project Organization Plan

The Atlantis Project is managed as a whole by the Integrated Project Team (IPT) that fully engages the talents of the people from the Owners and all the Contractors employed to design and execute the project. The philosophy of "best player plays" and open and honest communication should prevail within the team. An atmosphere of encouragement, inclusion and cooperation must emerge so that all team members are contributing their fullest effort toward achieving objectives that they both understand and agree with.

3.3.2 Atlantis Leadership Team (ALT)

The Atlantis Project General Manager and single point of accountability is Greg Sills. In addition to Greg Sills, the following individuals comprise the Atlantis Leadership Team:

Name	Designation
Dan Elmer	Commercial Manager
Mike Walters	Commercial Negotiator
Keith Mouton	HSSE Team Leader
Cynthia Hammer	Controller
Jill Harig	HR Advisor
Gary Imm	Deputy Project and Offshore Coordination Manager
Dirk Smit	Integration / Installation and Offshore Hook-up Project Manager
Rick Oneto	Operations Supervisor
Jon Sprague	Drilling and Completions Manager

Pramod Singh	Subsurface Manager
Bill Naseman	Project Services Manager
Gene Hall	Subsea Manager
Steve Pastor	Integration Installation Manager (Task Completed, Team Disband following delivery of PQ)
Terry Woods	Administrative Assistant
Charlene Shen	Atlantis Phase 2 (Including ANF/DC3) Project Manager
Donnie Carter	Engineering Authority

The Subsea Systems Delivery Manager for the Atlantis Project is Gene Hall who reports to Greg Sills, Project General Manager.

The Organization Chart for the ALT is also contained in Attachment 1. The organization chart for the Atlantis Flowlines and Riser Group chart is contained in Attachment1-1 and the ANF/DC3 chart is contained in attachment 1-2.

3.3.3 Subsea Systems Organization by Workscope

The Subsea Systems overall workscope consists broadly of the design and supply of all Subsea equipment identified in Section 1.2 – Scope of Work. This effort has been divided into several major workscopes as noted in Table 3.3-1 below. (This table illustrates the workscope of each team as the project moves through various project phases, i.e. from engineering to fabrication and through installation. Separate installation, commissioning and operational plans are discussed in Section 9.0.)

Table 3.3-1: SUBSEA TEAM WORKSCOPE RESPONSIBILITIES

Contractor / Subcontractor	Workscope Description
Technip Offshore, Inc. The major technical support to BP has been provided by Technip under the terms of a Frame Agreement (Well System Integration and Design Engineering Services Contract, No. BPA-00-01772) established in January, 2001. The scope of work specified in that contract includes:	Provide integration and design engineering support during all phases (Select, Define and Execute) of the project Integrated schedule, planning and progress reporting General administrative support Procurement support and material control Document control Quality assurance and control support Project procedures and administration Management of change support Cost estimating support Interface management HSE support Preparation of information as directed

Contractor / Subcontractor	Workscope Description
FMC Corporation	Detailed design – Subsea equipment Wellhead equipment Subsea tree systems Subsea manifold systems PLET assemblies Flowline jumper assemblies Subsea control system Topside controls equipment ROV docking and interface tooling
NEXANS	Umbilical Engineering and Fabrication
Subsea 7	Umbilical Installation
Sumitomo	Supplier for Flowlines And Riser Pipe
Granherne	Flow Assurance studies
Sonsub	ROV tooling & services
Fugro Survey services/Geoscience Earth and Marines Services	Geotechnical surveys
Global Sante Fe	Drilling, completion and subsea construction services
Heerema	Flowline & riser installation

The organization charts for the Atlantis Project, including key individuals from the prime contractors are included in Attachment 1.

Roles and Responsibilities[†]

The Subsea Team (SST), acting as the Subsea equipment general contractor, will provide the technical leadership and resources necessary to complete the work outlined in the SoR and individual equipment Functional Design Specifications (FDS). Within the SST, specific BP Lead Engineers will be assigned for each major discipline area. These Lead Engineers will be supported as required by Technip and FMC technical teams.

As the strategic link to the PQ Floating Systems (topsides and hull teams), the SST will provide the necessary interface information for all critical items. The BP Lead Engineers responsible for contracted work scope serve as the focal point for all aspects of the work being performed.

The prime contractors are responsible for the work identified by the scope of work of their respective contracts as it relates to the project. They are also responsible for subcontracts pertaining to the project where major interfaces or direct connections exist between their equipment and the specific subcontract. Prime contractors are chosen on the basis of their

[†] See Attachment 13 for ADC Specifics

technical and project management skills and their commitment to providing long-term service to the Atlantis project. They are accountable for the overall engineering, construction and testing of the various components defined by their contracted scopes of work.

Project Boundary Conditions

The following are boundary conditions or "givens" that each Atlantis Team needs to recognize and work within:

The BP Capital Value Process (CVP) will be used as a framework to organize the project into stages of work and deliverables necessary to make decisions to proceed from one stage to the next. This process is to seek alignment with BHP Billiton's Tollgate project management process. In addition to the CVP, the BP Major Project Common Process (MPCP) also applies.

The Owners will make economic decisions in compliance with their internal criteria, which for BP is GIAPPS.

The HSE objectives of the project will be achieved by vigorously implementing document management systems to meet the expectations in gHSEr.

A Plan of Development will be submitted to the partner, BHP Billiton, for approval. A plan for the ANF/DC3 development will also be submitted to the partner BHP Billiton for approval. In addition, a plan for ADC will be submitted for approval.

The Subsea Team will support preparation of required AFEs and will comply with them on approval.

Others will transport oil and gas production to market.

Project Offices And Facilities

The BP and Technip Subsea Team will be housed in the Energy Tower Building, 11700 Old Katy Road, Houston, TX.

Services for the BP Atlantis Subsea Project will be performed on the 4th and 5th floor of the Energy Tower Building and will include all necessary office space for the assigned BP and Technip Subsea Team.

Planning and administrative support services will be part of the overall project team. At contract award, all necessary floor plan layouts, computers, copying equipment and IT system services will be identified and ready for implementation. .

The office facilities will include the following:

- Each team member shall be provided with an office containing furniture consisting of a desk, desk chair, reference table, 2 guest chairs, book shelves, lockable file cabinet, whiteboard and telephone with voice mail.
- Conference room(s) available with table and chairs for 10-12 people with access to larger rooms when required.
- Kitchen facilities
- Contractor-supplied coffee and tea supplies
- Covered parking
- Photocopiers and paper supplies
- Dedicated fax machine
- LAN printers including access to color printer when required
- Access and use of building services

Support staff, including project secretaries, for BP will be provided by Technip per terms of the contract.

3.4 Correspondence

3.4.1 General

By definition, project communications is any written or electronic correspondence that includes letters, memos, facsimiles, e-mails and meeting minutes, both incoming and outgoing, on the project.

As the Atlantis Project progresses, the correspondence procedure is sufficiently flexible to change and/or expand to meet any changing needs of the project.

The objectives of the correspondence procedure are:

- Effectively manage the flow and storage of incoming and outgoing communications generated by the project.
- Provide consistent identification, capture, control and storage of pertinent documents.
- Provide an effective means to store and receive needed information throughout all phases of the project.

Subsea System Team Members are responsible for understanding the correspondence procedure and using the system. Team members are responsible for determining which correspondence should be filed and for assigning an appropriate file number.

3.4.2 Correspondence Approvals

The BP Subsea Delivery Manager or designated discipline lead will be responsible for approving all official outgoing correspondence. In an event of an absence from the Project Team, a signed Delegation of Authority memorandum will be on file.

3.4.3 Correspondence Numbering

A Correspondence Numbering Procedure has been developed to provide a consistent numbering system for the control of all communications received by, or generated during the progress of the Atlantis Project. Accordingly, all correspondence should be assigned numbers using the system described in the Technip Correspondence Numbering Procedure (3467-ST-PM-0004).

3.4.4 Correspondence Log

CorrCon is the database used to record (log) and track official project correspondence. The appropriate Delivery Team Project Secretary, upon instructions or receipt of project correspondence from the Project Team, will enter the appropriate data into CorrCon, ensuring that the log identifies documents by an assigned document number.

E-Mail

Technip's Lotus Notes Administrator has set up a project specific Lotus Notes Correspondence database into which all project related email shall be stored. In order to send email to this database, users must "forward" incoming e-mail and copy outgoing e-mail to address "3478". This action will result in outgoing and incoming e-mail then being placed in the "Unfiled" section of the database. Each team member is then responsible for ensuring the appropriate subfolder is selected for each email.

3.4.5 Correspondence Transmittals

Correspondence transmittals are obtained from the Project Secretary. These unique transmittal numbers are generated by the automatic logging and numbering database CorrCon.

3.4.6 Correspondence Distribution

All communications will be distributed according to the assigned code, logged into the correspondence database (CORRCON) and filed in the Project Files by the Project

Secretary. This process is described in the Technip Correspondence Numbering Procedure (Doc. No: 3467-ST-PM-0004).

3.4.7 Filing System

Project Secretaries are responsible for developing an appropriate Project File and ensuring that correspondence is being properly filed. Email correspondence filing is the responsibility of individual team members.

A Project File Index will be developed and maintained at the Program Level by the Project Administration Coordinator. Any changes to the Project File Index will be requested through the Project Administration Coordinator. Such changes will also be reflected in the Email File System as well.

3.5 Project Document Control

The Document Control Administrator is responsible for maintaining and updating the file system as pertains to technical documentation, ensuring that effective communications between other Atlantis Teams are properly distributed and filed. Document control procedures will be standardized across the Atlantis Project to provide continuity, uniformity and traceability of all documents through a common index system. Where possible, tagging and drawing block titles will be standardized across the project to facilitate rolling results into the completed file of "as-built" drawings.

The Subsea Systems Project Secretaries will establish and maintain a project distribution matrix to ensure that all Subsea equipment-related documentation is distributed to the appropriate project teams. All communication generated by the project team shall be distributed in accordance to the distribution code assigned by the owner of the correspondence. The distribution code will be provided on the distribution matrix to ensure that technical documents are properly identified and distributed to the required individuals by the Document Control Administrator.

3.6 Project Meetings

Meeting Minutes will be filed, distributed and maintained in the same manner as Project Correspondence. The Project Secretary will assign a unique indexing number to each Meeting Minutes document using the CORRCON database as described in Section 2.4.6. Meeting Minutes will be filed in the Project Files that are maintained by the Project Secretaries.

4.0 PROJECT MANAGEMENT - PROJECT CONTROLS

4.1 Project Controls Overview

This section addresses the strategy and processes the Subsea Systems Team (SST) will use to complete the assigned scopes of work in a timely, cost-effective manner so as to facilitate the scheduled progress of prime contractors and other project groups while having a positive impact on the overall project economics. The resources of the SST will be directed toward successful integration of the work with the other sub-project.

4.2 Scheduling

The Atlantis Subsea Systems Scheduler will be responsible for developing the Subsea Systems schedule using information and data from the respective discipline Lead Engineers. This schedule will include all core equipment development schedules and all relevant subcontractor schedules to achieve the following objectives:

- Integrate all Subsea Systems activities so that the work can be executed in a manner that optimizes project resources.
- Provide Project Managers and Lead Engineers with the information necessary to manage the project within the project milestones.
- Define an integrated baseline plan which is logically linked, duration-based and achievable within the project milestones.
- Provide information to the Project Managers to ensure that the work is being completed at or below the control budget.
- Provide a Level 3 schedule that integrates smoothly into the overall Atlantis Project schedule.

The Primavera Project Planner (P3EC), Version 4.2 scheduling software will be used by the Subsea Systems Scheduler. It is the responsibility of each Atlantis vendor to develop and update its individual work schedules to at least a Level 3 and report that regularly to the Subsea Systems Scheduler. Using the vendor schedules, Technip will be responsible for integrating all Subsea Systems-related schedules and reporting schedule status and performance against the Baseline Plan.

The Technip procedure for schedule development within the BP Deepwater Program will be AMI-PR-EP-0003, which includes Schedule Hierarchy, Schedule Development and Schedule Updating.

4.2.1 Schedule Hierarchy

Project Master Schedule (Level 1) -Management executive summary schedule of major activities for overall project status.

Project Summary Schedule (Level 2) –Project overview for project management and client review to include mid-level activities.

Project Coordinated Schedule (Level 3) – Overall project coordination schedule relative to the Baseline Plan.

Discipline Schedule (Level 4) - A tool for scheduling and progressing detailed work activities at the discipline / subcontractor level.

Detailed Work Activity Schedule (Level 5) - A tool for planning daily activities and the basis for calculating earned value at the discipline level.

4.2.2 Schedule Development

Schedules will be prepared using the project-approved WBS as the basis. The Subsea Systems schedule will be developed to include Level 5. All vendors and subcontractors shall provide their individual schedules to at least a Level 3 as a minimum.

The Subsea Systems Scheduler will integrate all subcontractor schedules into an overall project coordinated Level 3 schedule that will be submitted to BP for inclusion into the overall Atlantis Schedule.

*A separate ANF/DC3 schedule shall be developed and maintained and will be capable of integration into the overall Atlantis schedule.

4.2.3 Schedule Updating

Schedule updating will occur on a regular monthly cycle. The resulting updated Subsea Systems schedule will be a tool to identify potential areas of concern and permit timely action to avoid or mitigate their effects. The updated Subsea Systems schedule (Level 1) will become a part of the regular Subsea Systems Monthly Progress Report.

The Subsea System Project Scheduler will use the deliverables lists supplied by the discipline Lead Engineers as the basis to develop a Subsea Systems Project Schedule (Level 5) using the Primavera project scheduling software. This schedule will be used by the individual discipline Lead Engineers as one basis for measuring their progress (see

* See attachment 9 for ANF/DC3 specific requirements

Section 4.6 for additional Progress and Performance Measurement. The Subsea System schedule will also be integrated into the overall Atlantis Project Schedule (Attachment 5).

The major events and key milestones for the Atlantis DC1 Subsea System project are given in the following Table 4.2-1. A similar table 4.2-3 is included in attachment 9 to illustrate ANF/DC3 milestones.

Table 4.2-1
KEY SUBSEA SYSTEMS MILESTONES

Milestone or Event	Date
Complete Concept Development (Select Phase)	Dec 2001
Complete FEED (Define Phase)	Jul 2002
Start Execute Phase	Apr 2002
Start Subsea Equipment Fabrication	May 2002
Start Pre-Drilling Program	Feb 2004
Start SIT Testing	Jan 2005
PQ Offshore Hookup	Sept 2006
Install Subsea Equipment	Sept 2006
Install Flowlines & Risers	Jan 2007
Install Umbilicals	Dec 2007
Commission Subsea System	Feb 2007
Deterministic First Oil	1Q 2007
Sanction First Oil	1Q 2007

Attachment 5 contains a selection of schedules current with the revision date of this plan. Following the material/weld failure on the Thunderhorse manifolds which resulted in the Atlantis manifolds being recovered, the ADC was initiated. The latest schedule is included.

4.3 Estimating*

The initial cost estimates for the Subsea Systems budget were prepared during the early Select Phase of the project. Subsequent revisions were made in April, 2002 and the final Pre-Sanction budget estimate was submitted in October, 2002 and sanction approved in December 2002. Subsequent to this, major budget reviews occurred with a complete "bottoms up" analysis in June 2004, resulting in our current forecast. During each revision, updated equipment configurations and field architecture layouts were considered in detail.

* See attachment 9 for ANF/DC3 specific requirements

Each sector of the project is expected to produce high quality estimates to support the budgeting and cost development of their respective portion of the Deepwater Developments. All estimates shall follow the BP Cost Breakdown Structure Template. ANF/DC3 cost build up to pass the define gate by March 2006.

Hidden contingencies are not allowed. All estimates must be on a BP cost basis with contingency as a separate identified category. Contingency development and determination must be reviewed and approved by the appropriate Delivery Manager. Any reduction to established and agreed upon contingencies shall be documented and a history maintained for record purposes.

4.4 Project Services Plan / Cost Control and Forecasting*

(The current Atlantis Project Services Plan can be found in Document 1440-10-PM-PR-007 Rev. A.)

Cost management is a critical element within the overall responsibility of the Atlantis management team. Section 4.4.1 of this document outlines the CTR and employee timesheet process as a means of identifying and controlling Technip engineering costs. The responsibility for overall project costs is shared between the Subsea Systems team and other delivery teams (Hull, Topsides, etc.).

The ANF Single Well tie-back Project moved through the stage-gate from Select (Conceptual Engineering) to Define (Basic or Preliminary Engineering) in October 2005 as approved in the sanction document DWP-FM-2005-89. The current schedule indicates the end of 1Q2006 for Define to Execute stage-gate, and 4Q2007 for Execute to Operate stage-gate. The project scope was defined in the sanction document and this will form the baseline for project execution. To the extent possible, project services process and procedures already in place for Atlantis South will be used

BP has established a database that runs on the various networks and provides sufficient information to support generation of financial reports, forecasts, trend analyses, project budgets, and cash flows. These databases will generate reports that are linked in several useful ways to present current project cost information. CostMANAGER is a software application used to document, monitor and manage total project life cycle costs against work breakdown structure (WBS) numbers. Further this application is used to produce monthly reports that are provided to Atlantis partner, BHP.

* See attachment 9 for ANF/DC3 specific requirements

The Subsea Systems cost management system produces the following reports on a weekly and/or monthly basis as appropriate:

- Project Budget Projection
- Labor Detail Report
- Manhour, Progress and Productivity Report
- Labor Cost Curves
- Actual Cost to Date vs. Earned Value
- Forecast at Completion vs. Budget
- Invoice Support Data (labor and expenses)

Plans for HSE, Risk Management and Value Engineering, which play critical roles in cost control, are covered in Sections 2.0, 4.7 and 6.9 of this document.

4.4.1 Engineering Manhour Control

Personnel Assignment Approval Form (PAAF)

The Senior Cost Control Coordinator for the project will develop an appropriate PAAF form and system for recording all assigned personnel approved to work on the Atlantis Project. The PAAF form includes specific personnel data such as title and cost rate. Prior to any Technip staff working on the Subsea Systems project, an appropriate PAAF must be prepared then reviewed and approved by the BP Subsea Systems Delivery Manager.

As individual staff are approved and assigned to the Subsea Systems Team, a PAAF will be completed and approved, then added to the project PAAF register. The PAAF register will be submitted for BP approval.

The basic control means to be used by the Subsea Systems Team on Atlantis will be the "Cost, Time, Resource" (CTR) task planning form. Each discipline Lead Engineer will prepare CTRs that will define the specific workscope to be worked during each phase of the project and as approved by the BP Lead Engineer. The sum of the CTRs will represent the engineering budget for that phase of the project. The CTRs will be identified and numbered per the approved project Work Breakdown Structure (WBS), reference Attachment 4, and will divide each workscope into manageable and deliverable tasks. The completed CTRs will be reviewed and approved by the respective discipline Technip Lead Engineers, BP Leads and Technip Project Manager with final review and approval by the BP Subsea Systems Delivery Manager or BP Project Engineer.

The Technip Project Cost Coordinator will input the approved CTRs into the Project Manhour and Cost Control System by WBS number. This will establish the manhour base

for both the cost and schedule tracking. The WBS numbers, descriptions and start and finish dates will be downloaded to Primavera Project Planner (P3), Version 3.0 or P3e/c.

Using the CTRs, and in conjunction with the Project Manhour and Cost Control System, the Project Cost Coordinator, under the direction of the Technip Project Manager, will develop the engineering manhour planning sheets. This will be done using the start and finish dates on each CTR to allocate the manhours over the time frame of the work. These planning sheets will be the basis for specific project manhour and cost S-curves.

4.5 Change Control and Management of Change

The Subsea Systems Team will control any major changes in the Subsea equipment using the BP Change Control Procedure No. 1440-10-PM-PR-0255. The Change Management System will identify record, evaluate, control and document any major changes initiated by the BP or Technip Lead Engineers.

The Change Management System includes the following elements:

- Scope of change to be made
- Steps to implement the change
- Responsibilities, verification, measurement and feedback inputs
- Necessary forms to complete the process

4.6 Progress Measurement

Progress reporting by the Subsea Systems Team will be accomplished weekly by the individual discipline Lead Engineers, with these inputs being reviewed and integrated into the monthly Project Status Report. These reports will contain current status with identification of any technical, budget, schedule or other concerns.

The Subsea System Monthly Progress Report (Document 3478-XX-B-P-0055) will provide the current status of key cost, change, schedule, safety, quality, areas of concern and other information needed to keep BP and BHP Billiton appraised of the project status. It will also provide early warnings in all areas of concern that could impact either project cost or schedule.

Details of the Subsea Systems progress measurement are captured in Section 4.2.3, in particular, the Project Schedule (Level 5) and the monthly Document Progress Report.

The Subsea Team will make continuous use of several methods of measuring its progress and performance. Several of the activities noted above (Sections 4.2,4.3 and 4.4) will be used on a regular, scheduled basis. Other powerful means that will be used include:

- Weekly Status Meetings and Reports. Each week the Subsea Team will meet and report, by technical discipline, the status of the individual equipment areas. Each BP Lead Engineer or his/her representative will report on the prior week's achievements, current planned activities and any problems encountered. This forum will also be used to discuss critical interface issues. On a more formal basis, the Subsea Team and all project contractors will produce a Monthly Status Report that will document all noteworthy information for the month.

- Schedule Reviews and Updates. Each week the Subsea Scheduler will receive detailed schedule inputs from each discipline engineer that will be used to update the Subsea Project Schedule on a consistent and regular basis. As described in Section 3.6, this Primavera P3 – supported schedule will be produced with Levels 1 thru 5 detail, and also be integrated into the overall Atlantis Project Schedule produced by Mustang Engineering. The regular and detailed schedule reviews by the Lead Engineers ensures that timely and accurate scheduling information is available.

- Cost Management and Control. Using an established cost control system, the Subsea Team will have available monthly cost and labor reports to measure its progress and performance against planned objectives. These reports include:
  - Project Budget Projection
  - Labor Detail Report
  - Manhour, Progress and Productivity Report
  - Labor Cost Curves
  - Actual Cost to Date vs. Earned Value
  - Forecast at Completion vs. Budget
  - Invoice Support Data (labor, materials and expenses)

These tools will enable each Lead Engineer to assess his / her team performance and make any necessary corrections on a timely basis.

- Labor Productivity Reports. A tool to measure individual or group performance that will be used by the Subsea Team are labor productivity reports. These will be generated on a weekly basis and will reflect the actual percent completed of a given task compared with the budgeted value of that task. This report will enable each BP Lead Engineer to report on his / her team's productivity on a weekly basis.

- Milestone/Benchmarking. The Subsea Team will use continuous Milestone Charting/Benchmarking to measure its progress toward our established goals. Milestone/Benchmarking will be the tool that provides a current snapshot of project

status compared with the original or other accepted goals. Once the Milestone/Benchmark has been established, Scorecarding will recognize the achievements against quantifiable goals. By using Milestone/Benchmarking to establish current relative status and Scorecarding to evaluate actual progress, the Subsea Team will have another dynamic tool capable of measuring progress.

4.7 Risk Assessment and Management

The Atlantis Subsea Project Team will deliver a safe facility to the Deepwater Development BU through the application of a structured approach to design safety, with the goal of achieving a step change in operational safety through the minimization of risks at the source and the effective management of the hazards that remain.

The Subsea Project Risk Management Plan (BP Document No. 1440-10-PM-PR-0005) outlines the process for identifying, assessing, monitoring and managing uncertainties that may affect Project results. The Subsea Team will manage Project Execution Risks, Major HSE Risks and Project Improvements (opportunities to change design, scope or execution that can increase the value of the Project).

The Subsea Project Team will manage all identified risks and focus effort and resources on the highest priority risks first, i.e. those that have the largest potential impact, are most likely to occur and are most manageable. Mitigation of these risks will be accomplished by activities such as: design reviews (HAZOPs, HAZIDs, Operability reviews), third party certification, factory acceptance testing, systems integration testing, NDT testing and quality plans and will be communicated to the engineers, designers, estimators and others involved in risk analysis to support their judgment in setting ranges on cost and schedule estimates. Other risks that must be addressed and managed by the Subsea Team are environmental, safety, weather and oceanographic risks.

The Predict!Risk Controller [software package] will be used to document and track Project risks, opportunities and recommendations that come out of Formal Safety Assessment activities. The Project Risk Register will be handed over to Operations prior to Project final closeout, at which time the Operations Risk Management Procedure will take effect.

4.7.1 Roles and Responsibilities

The Atlantis Subsea Delivery Team will be expected to identify risks and implement mitigation plans to eliminate the risk, reduce it to an acceptable level or provide a contingency in the budget or schedule. Each risk will have a team member assigned and accountable (the Risk Owner) to act on recommendations suggested by the delivery teams and to develop plans to eliminate or mitigate the risk to the proper level. Tracking risk

actions is the responsibility of each Delivery Team and will be delegated to the Risk Owner to expedite, monitor and report status on actions.

The Risk Owner is also responsible for preparing and monitoring the execution of the mitigation or contingency plan. The Team Risk Champion will coordinate updating the Risk Register and reviewing and reporting risk status for the Delivery Team.

The Subsea Team Risk Champions will be the HSE Coordinators and PS Change Risk Coordinator (reports to the Subsea Delivery Manager and the Project Services Lead). The Subsea Team Risk Champions facilitate risk management activities for the team. This is in addition to the Risk Management activities outlined in the Project Services PEP 1440-10-PM-PR-0007, Rev. A.

The Risk Champions promote the systematic capture of risks as they are identified by the team through the activities noted in Section 4.7 of this document and maintains the Risk Register for the team.

The Risk Champions will ensure that the Risk Management Process will satisfy the requirements of the Hazard Management Strategy, 1400-20-HS-RP-6000, C 072301.

4.7.2 Risk Management Process

The following Risk Management process will be used:

- Uncertainty Identification (HSE Hazards, Project Risks, Opportunities)
- Qualitative and Quantitative Assessment
- Risk Response (Mitigation & Contingency Plans)
- Actions
- Track, Reassess, Report (Continue Improvement)

Uncertainty Identification

The Delivery Team will seek out the experience of the other Deepwater Projects as a starting point for risk identification. Experience has shown that to deliver HSE performance on large, complex offshore projects within project cost and schedule constraints, the application of a robust HSE Hazard Management Strategy is required.

The Atlantis Subsea HSE risks will be identified and managed as described in the GoM Deepwater Development Program Hazard Management Strategy 1400-20-HS-RP-6000. A key part of the strategy is the application of Formal Safety Assessments as described in the Gulf Of Mexico Deepwater Development Program Formal Safety Assessment Guidelines

1400-20-HS-RP-6005. Assessment of the HSE Risks will be done using the criteria for the HSE Risk Assessment found in the Subsea HSE Plan 3478-BHS-RA-0001.

Qualitative and Quantitative Assessment

The Delivery Team will make a qualitative assessment of risks using expert judgment and/or hard data to evaluate the severity of the consequence, probability of occurrence and the degree of manageability. In order to risk rank the hazard scenarios, all Atlantis hazard analysis studies will utilize a Boston Matrix, Table 4.7-1, together with the risk ranking analysis criteria presented in Table 4.7-2 and Table 4.7-3.

Table 4.7-1: RISK ASSESSMENT MATRIX

Hazard Severity Category	FREQUENCY LEVEL (PROBABILITY)				
	A	B	C	D	E
I	1	1	1	2	3
II	1	1	2	3	4
III	1	3	4	4	4
IV	3	4	4	4	4

Risk Ranking Analysis Criteria:

Table 4.7-2: SEVERITY DEFINITIONS

	EXPECTED EVENT CONSEQUENCE
I	Loss of majority of the personnel on board Rapid impairment of TSA/Evacuation Facilities preventing safe, controlled evacuation Long term environmental damage affecting extensive area and prolonged clean-up (>20,000 bbls oil / chemical) Extensive facility damage, loss of asset
II	Single or multiple fatalities or severe injuries to workers in immediate vicinity of event Contained, life threatening health effects Long term environmental damage affecting limited area and prolonged clean-up (>5000 bbls oil / chemical) Major equipment damage, moderate business interruption

III	Single worker with onset of irreversible health effect or permanent disability Less severe injury to multiple workers Moderate environmental impact (>100 bbls oil or >1000 bbls chemical) Moderate equipment damage, minor business interruption
IV	Minor injury or reversible health effects to worker Minor environmental impact (any oil spill or 1 bbl chemical) Minor equipment damage

Table 4.7-3: **FREQUENCY DEFINITIONS**

Level	Descriptive Word	Definition
A	Frequent	Repeated occurrences could be expected in the life of the facility.
B	Probable	Several occurrences could be expected in the life of the facility.
C	Remote	Single occurrence is not necessarily expected at the facility, but could reasonably be expected at similar facility within the company during the facility lifetime.
D	Improbable	Single occurrence is not expected during the lifetime of company facilities, but could be expected once in the industry during the facility lifetime.
E	Highly Improbable	Scenario is unlikely to occur and is not known to have occurred elsewhere.

A Manageability Matrix will be used to illustrate the relative priority of Subsea Project risks, focus attention on the most important risks and report progress in reducing risk levels. The Matrix is consistent with the GoM DWD Risk Management Plan 1440-10-PM-PR-0005. A quantitative assessment of the execution risks will be conducted to determine needed project schedule and/or budget impacts. The quantitative assessment will justify the risk ranking and help the Team prioritize and plan responses.

Risk Response

The Risk Response is the Plan through which the team decides to adopt management of the identified risk. This plan consists of:

- An elimination plan that removes the risk entirely or
- a mitigation plan that reduces the risk to a manageable level, and
- a contingency plan that manages any residual risk.

Primary responses include avoidance, reduction, transfer, sharing and acceptance with contingency applied.

Actions

The Team will determine and implement actions resulting from the Risk Response. The Risk Champions will expedite and track progress on these actions.

Tracking

The Team Risk Champions will coordinate updating the Risk Register (Predict!Risk Controller) and reporting risk status for the Delivery Team.

Reassessment, Reporting and Continuous Improvement

Reassessment of Project Risks will be conducted by the Team to check progress with the mitigation plans for existing risks, identify new risks, and re-prioritize the list of most important risks. Reporting requirements include a periodic report on Project risks to the Subsea Manager and the Project Engineer. The Risk Management process will be reviewed periodically to ensure that it is working as expected and helping to manage the project.

4.8 Reporting Requirements

Major Contractors will be required to submit Progress Reports on a monthly basis. The general format shall be as follows:

1. Executive Summary
2. Health, Safety, Environmental and Resources
3. Progress Review, including technical issues
4. Manpower and Production Analysis
5. Cost Update Variance Analysis
6. Quality Assurance / Quality Control
7. Schedule Update and Variance Analysis
8. Areas of Concern

4.9 Invoicing

Invoicing will be in compliance with Contract No. BPA-00-01772. Technip will issue a monthly invoice to BP for all engineering and related services performed the previous month. It will include all required supporting documentation, including reference to the appropriate BP SAP PayKey number system.

The details in the Technip invoice will be in accordance with Exhibit "E" of the contract and will supply sufficient backup for audit purposes.

Other contractors to BP or subcontractors to frame agreement members will submit invoices as per the governing BP contract in place with BP Contractor.

5.0 QUALITY AND QUALITY PLAN

5.1 Quality Scope of Work

The Atlantis Project Team is committed to quality. Quality shall rank alongside schedule, cost, health, safety, and environment as primary project objectives. It is the goal of this project that each individual in every job function perform their job in accordance with project requirements and that they be personally committed to the concept of doing their job right, the first time, every time.

The objective policy of the Atlantis project is to have an effective, efficient, and auditable Quality Management System that is planned and developed in conjunction with each Company's (contractor, supplies, vendor and sub-supplier) management systems. Conformance of work to BP business practices, contract and regulatory requirements shall be determined on the basis of objective evidence of compliance with those requirements.

Objectives

The quality objectives of this project are to:

- Minimize quality related defects and rework;
- Document compliance with project requirements;
- Establish and maintain quality systems to ensure that all materials, products, services, and documentation are in conformance with all regulatory requirements, codes, specifications, drawings, etc;
- Eliminate unnecessary surveillance activities and unnecessary documentation;
- Provide a framework for verifying, reviewing, and evaluating the effectiveness of the Quality Management Systems;
- The principle "you get what you inspect, not what you expect" has been adopted for the project;
- Develop a long-term relationship with suppliers to create and establish trust and openness.

5.1.1 Process Improvement and Total Quality Assurance

Throughout the project development, the Subsea Team will employ a number of project-wide activities to ensure continuous progress and quality assurance. Where practical, these activities will be incorporated into the Subsea Schedule and will include:

- Risk Management Planning
- Management of Change (MOC)
- Project HSE Reviews (PHSER)

- Value Improvement Practices (VIPs)
- Cost Risk Evaluation (BRISK) Reviews
- Schedule Risk Evaluation
- Front End Loading (FEL) Assessments
- Internal and External Benchmarking
- Peer Assists and Peer Reviews
- Formal Safety Assessments (HAZID and HAZOP)
- Operability Reviews
- Lessons Learned Reviews

Note that the term "MOC", as used above, refers to management of changes that are deemed critical in the design/execution phases of the project (i.e., changes in field layout, equipment design, schedules, system interfaces, and contracts). It does not refer to the definition of MOC used in the BP Golden Rules of Safety. During all phases of work prior to the Atlantis platform becoming operational, the references in BP Golden Rules of Safety that concern changes in organizations, personnel or procedures are considered not to be applicable.

5.2 Quality Audits

An important element of the Quality Management System for this project involves the PMT assisting in the analysis, development, and implementation of project systems and procedures. This will be accomplished by monitoring and auditing the implementation of project and, where applicable, contractors'/suppliers' quality systems and procedures.

Project Audits will be completed on an as-needed basis. Corrective actions issued as a result of audits will be reviewed and monitored by the Atlantis Project Team. Unscheduled audits may be carried out with less formality, depending on time requirements and the scope of the audit. Primary responsibility for such audits lies with the QA Lead.

5.3 Inspection and Testing

All suppliers and their sub-suppliers are required to have a functional quality management system in place, which is based upon, or in accordance with, a recognized standard such as ISO 9000. Supplier quality requirements are referenced in procedure 1400-20-QA-SP-9001, Project Quality Assurance General Requirement in the procurement package.

The Project QA Lead shall be responsible for the following supplier QA surveillance activities:

- Conducting pre-award assessments

- Conducting quality audits during the execution of the scope of work
- Assessing the level and expertise of inspection personnel to implement surveillance activities
- Monitoring work execution, inspection and testing
- Identification and closeout of corrective action, concerns and issues noted during the execution of the work

The level of Quality Surveillance Inspection during manufacture and/or fabrication of materials and equipment for the project are governed by:

- A criticality rating process which considers:
  - Level of safety, operability, and financial consequences and
  - Probability factors, including design and manufacturing complexity
- Items on the critical path for the project, which, if subject to delays due to rework, could impact sequencing of follow on work
- An inspection philosophy modeled after API 6A, PSL3 quality matrix

The Project QA Lead will coordinate the management of Third Party Surveillance and inspection activities.

5.4 Corrective Action Process

Corrective action processes for major contractors and subcontractors shall be in accordance with Technip Quality Program Plan, 3467-BQA-PA-0001, which discusses Project non-conformance and corrective action, or as separately agreed between the Parties.

5.5 Quality Records

Retention of Quality Records is addressed in each work package release and in industry standards, such as API, and is deliverable as listed in the Master Document List included with each supplier's contract.

5.6 Reporting

Critical Process Review

The responsible BP Lead Engineer and BP QA/QC Lead Engineer will review and approve Contractor procedures for its QA/QC plan and all critical processes used during the equipment fabrication process. Such process would include forging/casting of raw materials, welding and coating procedures, repair procedures and all NDE operations.

Non-Conformance Review

The responsible BP Lead Engineer and BP QA/QC Lead Engineer will review all Non-Conformance Reports regarding his/her equipment area generated by the Contractor, QA/QC, or any other surveillance personnel and approve any dispensation of the non-conforming item. In the interest of efficiency, BP QA Lead may elect to identify and review only types of NCRs deemed "critical" to the design or fabrication process, if agreed with supplier and BP Lead Engineer prior to the start of equipment fabrication.

Suppliers are required to submit, for review and approval by the designated Atlantis Project Team members and the project QA Lead, the following documentation:

- Quality Plans and a listing of associated Quality Assurance and Control procedures to ensure that product is produced, inspected, and installed in accordance with applicable contract requirements, specifications and standards.
- Inspection and Test plans (ITP) are required to be submitted by suppliers providing critical components and contractors involved in field or shop fabrication of the work.
- The aforementioned Quality and Inspection and Test plans shall be submitted to Company for approval, and where designated, review meetings shall be scheduled with Company, Atlantis project QA, contractors, suppliers, Third Party and Classification Society Personnel to identify surveillance interfaces and to expedite the document review and approval process.

5.7 Quality Assurance Plan

The Project Quality Plan (PQP), Document No. 3467-BQA-PA-0001 (BP Document No. 1400-30-QA-PR-0002) defines the quality requirements for the Atlantis project, and provides all project team members with documented information on the Quality Management System applicable to this project. Project personnel, through adherence to the PQP, Company requirements, project procedures, and the supporting Work Methods and Work Instructions, shall adhere to the policies, philosophies, and business practices described in the Project Quality Plan. The Project Quality Plan addresses the following areas:

- Project Quality Objectives
- Project and Quality Organization and Responsibilities
- Project Quality System Documentation
- Quality Assurance of Project Work Scope Activities
- Personnel Training and Awareness
- Project Quality Management System Audits and Corrective action Process
- Supplier Quality Surveillance and Inspection
- Supplier Noncompliance and Corrective action process

- Project Quality Status and Reporting

6.0 TECHNICAL MANAGEMENT PLAN - ENGINEERING CONTROL

Technical Management of the Subsea System equipment workscope is the joint responsibility of BP and its associated Prime Contractors. In the case of the Subsea Systems, the Prime Contractors are Technip, FMC, NEXANS and the flowline/riser fabrication and installation contractor(s). These groups support the BP Subsea Delivery Manager in each of the major equipment and services areas identified in Section 1.2.

The BP Subsea System Delivery Manager is supported directly by individual BP Lead Engineers who in turn are supported by a designated engineering team provided by Technip (see Attachment 1).

6.1 Engineering Scope of Work

The Engineering Scope of Work has been captured in Section 1.2 of this document. The management of this scope of work will be as described below.

The Subsea System BP technical management effort is guided on a day-to-day basis by the BP Project Engineer who reports directly to the BP Subsea Delivery Manager. The BP Project Engineer has the following roles and responsibilities:

- Responsible for coordination of project controls including schedule
- Coordinate the activities of the Discipline Lead Engineers.
- Recommend and help discipline leads to obtain technical resources to support the technical development of the project.
- Establish work priorities between the discipline areas, in conjunction with the BP Subsea Delivery Manager.
- Facilitate appropriate meetings within the Subsea Team disciplines and between other Atlantis technical groups.
- Report technical progress and/or concerns to the BP Subsea Delivery Manager.
- Assist in resolving technical issues that arise during the course of the project, including interface issues between disciplines.
- Ensure that technical decisions are properly planned, supported, documented and acted on in a technically responsible and timely manner.
- Providing Project ServicesTeam with timely inputs as required on a monthly basis.

<u>BP Lead Engineers</u>

Table 6.1-1 below shows each Discipline Lead position and assigned individual and the Subsea system workscope which fall under each lead's responsibility:

Table 6.1 – 1: DISCIPLINE LEAD POSITION AND RESPONSIBLE INDIVIDUAL

Discipline Lead Position	Responsible Individual
Well Systems Project Engineer	Ryan Malone / Charlos Ward
Well Systems Installation Manager	John Hughes
Subsea Tree Lead	Rick Weber
Umbilical Lead	Benny Kirkham
QA/QC Lead	George Huntoon
Controls/IWOCS Lead	Doyle Hickok / David Whitehead
Well Systems/ROV Support Lead	John Hughes
Special Projects	Bob Herrmann
Project Services Administrator	Stephen Brady
Flowline/Riser Lead	Otto Granhaug
MANTIS Lead (manifolds, jumpers, PLETS)	Larry Douglas
Installation Consultant	David Sorrel
Interface Coordinator	Chuck Horn
HSE Coordinator	Rick Sloan/Jim Kruger
Subsea Team Risk Champions	Rick Sloan/Jim Kruger

Each Lead Engineer will be responsible for providing guidance to his/her discipline engineering team through all stages of engineering design. The intent is to effectively communicate BP's technical requirements for the engineering design work on an ongoing basis, utilizing a team approach. This method should prove more effective than the traditional approach where the contractor does its work in isolation until a major milestone is reached, then hands it over to the Company for review. The above Discipline Leads have the following roles and responsibilities:

- Responsible for controlling budgets and schedules as approved by the BP Delivery Manager (and reporting any changes to the Project Services Team.)
- Review Contractor's work to ensure that the equipment designs and developments meet project requirements as defined by regulatory agencies, Certification Authorities, project specifications, industry standards and recommended practices, and BP's general company standards.
- Provide technical expertise (in a proactive manner) to other Atlantis groups responsible for the prime contract deliverables and services. Such expertise shall include the resolution of technical issues and the development of detailed interfaces.

- Provide technical assistance to the Contractor's engineering teams as appropriate. Work directly with other area technical groups (Hull, Topsides, etc.) to resolve technical issues and develop technical interface solutions in a proactive manner.
- Provide system level engineering, technical assistance and operational input to the Contractor's engineering teams as appropriate.
- Assist other project teams to develop solutions to issues involving tradeoffs between technical and commercial issues.
- Report Contractor's technical progress to Subsea Systems Delivery Manager on a weekly basis and to Atlantis Leadership Team as directed.
- Ensure utilization and transfer of existing BP technology to Atlantis equipment as appropriate.
- Review, comment and approve all project deliverables produced by Contractors.
- Ensure delivered documents bear a BP document number in the required format and that the appropriate equipment item tag numbers are assigned.
- Prepare, with the assistance of Technip and FMC, the Installation, Maintenance and Operating Manuals containing detailed information and procedures for offshore operations.
- Facilitate technical buy-in of other project teams as needed to effectively communicate key design decisions, including the organizing and conducting of discipline Peer Reviews.

Limits of Authority

The Subsea Systems Team is a dedicated resource group set up primarily to execute the design, fabrication, testing and installation of all Subsea equipment identified in Section 1.2. Each BP Lead Engineer shall be supported by the technical staff provided by Technip, supplemented when necessary by other Contractor engineering staff.

The Subsea Systems Team has no authority to issue instructions to other Atlantis teams (e.g., Hull, Topsides, etc.) or outside Contractors not associated with the provision of Subsea equipment. All matters concerning contractual items should be brought to the attention of BP's Project Commercial Manager or Procurement group by the BP Project Engineer, Subsea Delivery Manager or Subsea Project Services Lead.

Additional Resources

Each BP Lead Engineer has the responsibility to perform his/her duties as outlined above and shall have the necessary Technip technical resources to accomplish these tasks. In the event additional resources are necessary, the Lead Engineer shall request these resources as required.

The Lead Engineer may also request additional technical resources required to evaluate specific technical areas in which he/her may not be fully qualified to perform. In particular, specialists from BP's Exploration and Production Technology Group (EPTG) may be called in when necessary.

6.2 Design Criteria Document

Conceptual Design (Define Phase)

Each BP Lead Engineer will review the concept design layouts as they are produced by Technip to ensure that the conceptual designs conform to BP requirements as stipulated in the Statement of Requirements (SoR) and other BP requirements for deepwater offshore operation. The BP Lead Engineer will participate in the formal design review of the conceptual engineering layouts.

The BP Lead Engineer will consult with all other appropriate Atlantis teams (Hull, Topsides, Drilling, Completions, etc.) to keep them fully informed concerning the relevant design and interface issues. It is important to have all teams buy-in to the designs at the conceptual stage to reduce the probability of major design revisions during later phases of the project.

Detailed Design (Execute Phase)[†]

The BP Lead Engineer will work with their respective discipline engineering groups in the development and review of detailed designs. All detailed designs will be performed by the designated prime contractor personnel. For example, all Subsea tree, manifold, and controls detailed designs will be performed by FMC, while jumpers and PLETs will be fabricated by Porter Services. Similarly, other subsea-related equipment such as umbilicals and ROV tooling will be detail designed by the respective prime contractors after they have been selected. Riser and Flowline detailed design will be done by Technip.

The BP Lead Engineers will participate in all formal design reviews and ensure that the equipment designs fully meet BP's requirements and specifications. The Lead Engineer will review, comment on, and approve all project deliverable technical documents produced during the detail design stage as applicable to his/her area of responsibility. The required documents (CDRL) will be listed in the equipment functional design specification (FDS).

Design Data Book

[†] See attachment 13 for ADC specific requirements

The Contractor's Design Data Book will include a Design Summary Document defining the design basis for the equipment and all supporting engineering design documentation required to demonstrate that the design conforms to the agreed Functional Design Specifications (FDS), SoR and Design Basis Document (DBD).

Each BP Lead Engineer will review and approve his/her section of the Design Data Book prior to submittal of the document to other Atlantis project groups or the Certification Authority.

As-Built Documentation

The Lead Engineer for each discipline area will ensure that all technical documentation is updated to reflect the as-built condition of the equipment prior to deployment to the field.

6.3 Engineering Deliverables Numbering System

All engineering documents are to be identified by a unique document number and a revision level. This shall include reports, studies, list, bills of materials (BOMs), data sheets, criteria, specifications, evaluations, etc. The numbering system including revision levels shall be in accordance with the Project Document Numbering Guideline (1400-10-AD-PR-0212) and the Technip Project Engineering/Technical Document Numbering System (3467-ST-PM-0001).

6.4 Engineering Deliverables Preparation

The deliverables that are specified on each CTR will be the basis for developing the deliverables list that will be used for calculating progress (see Section 3.11). The deliverables will be weighted by the discipline Lead Engineer based on manhours and specific "milestone chains" will be prepared for each deliverable.

6.5 Mechanical Equipment Numbering

The field architecture numbering system is as shown on drawing Field Architecture with Equipment Designations (Technip doc. No. 2478-BSB-DC-0227, BP Doc. No. 1440-30-SB-DG-0051-001). The number system is based on using the manifolds as the central geometric starting point and the labeling system shall by its designation describe the location of the component is a logical fashion. By understanding the labeling system, an ROV operator should be able to find the ROVs location by referencing a component label at DC1. The first manifold "1" is north of the center and subsequent manifolds north of "1" are odd numbers. Manifolds south of "1" are even numbers beginning with "2". Trees are labeled with letters A through D clockwise as shown. Each tree is labeled based on the manifold it is attached to and the letter position relative to the manifold. Each tree jumper is

then labeled as to whether it is a test jumper or production jumper "T" and "P" respectively. As shown, "3AP" is a production jumper between manifold "3" and tree "3A". Since the manifold number is "3", intuitively it is the second manifold north of the center.

Flowlines are labeled P1, P2, P3, P, T and W2. P1, P2 and P3 are east of the manifold centerline. P, T and W2 are west of the manifold centerline. P flowlines are production, T is a test flowline and W flowlines are water injection. Flowline PLETs are labeled the same as the flowline. Hydraulic and electric umbilicals are labeled H and E respectively with a number designation. Even numbers are east of the manifolds centerline and odd numbers are west of the manifold centerline. Umbilical Terminations are labeled the same as the umbilicals.

PLET Jumpers are labeled by combining the two components connected. "2-P2" is the PLET jumper from manifold 2 to PLET P2. Flying leads are labeled in a similar way. Hydraulic flying leads are labeled beginning with the hydraulic termination unit first and the component to be connected second. For example, "H2-4B" is a hydraulic flying lead from umbilical termination unit H2 to tree B on manifold 4. Electrical flying leads are the same, with an addition of "EC1 or EC2" referencing the specific tree connector since each tree has two electric flying leads.

6.6 Engineering Design Symbols

All Technip Design/Drafting work complies with company standards AEI-WW-DD-0001, 0004, 0005, 0006, 0007, 0008, 0009, 0010, 0012, 0013 and 0014.

Other governing Engineering documents complied with are API-6A, API-17D, API-17A and ANSI Y14.5 which dictates specific dimensioning and tolerancing of critically detailed parts.

Engineering Design Symbols are in accordance with Internal Standard Association (ISA).

6.7 Design Reviews[†]

Informal technical review meetings will be held within each discipline Subsea Systems group on an as-needed basis, depending upon the level of work completed. More formal design reviews will be held at intervals defined in the Subsea Systems Project Schedule and Quality Plan. In general, these meetings will be held at the completion of the conceptual design (Select Phase), at the completion of the FEED (Define Phase), and mid-way and at the end of the detail design (Execute Engineering Phase). Reviews will also be conducted to ensure the design will address the issues of the Hazard Identification (HAZID) study, Hazard and Operability (HAZOP) review and standards and regulations of the cognizant

[†] See attachment 13 for ADC specific requirements

federal authorities such as MMS and ABS. Additionally, individual discipline Peer Reviews will be held as established by the BP Lead Engineers.

Design Revisions

Each BP Lead Engineer will review his/her respective discipline equipment design revisions to ensure that all revisions are incorporated as agreed by BP, and meet BP's requirements and the requirements stipulated in the Subsea Systems SoR and DBD. The Leads should also ensure that the Contractor's internal procedures for design revision are being followed.

The Lead Engineer will also review all design revisions for possible impact on interfacing equipment and ensure that revised design documents are distributed to all affected project teams with the assistance of the Document Controller.

Design Decision Log

Each BP Lead Engineer will ensure that his/her input to the Subsea Systems Design Decision Log is consistent and accurate. All significant technical or design decisions that are made and agreed upon during the design stages of the project shall be included in the Design Decision Log. The Decision Log is kept and maintained by the Technip Project Manager.

The integrated Design Decision Log should be distributed for review and information to the full Subsea Systems Team on a regular monthly basis.

6.8 Best Practices

The BP Lead Engineers shall work closely with each Contractor engineering team to implement Best Practices activities into the project. These activities will include but not be limited to:

- Capital Value Process (CVP)
- Major Project Common Process (MPCP)
- Management of Change (MOC) Process
- Value Improvement Practices (VIP)
- Benchmarking with other deepwater projects
- Periodic HAZID / HAZOP Assessments
- Peer Reviews
- Operability Reviews
- Assurance Reviews
- Project HSE Reviews (PHSER)

- Lessons Learned from other deepwater projects

6.9 Value Engineering Plan

The Atlantis Subsea team's plan for Value Engineering is simple and straightforward:

1. Capture Value Engineering activities conducted. Demonstration of these activities is required as described in the Capital Value Process (CVP). It is necessary to demonstrate such activities to pass through various project gates.
2. Continuously challenge all aspects of the Project through the design, manufacturing and other phases, looking for opportunities to remove unnecessary components or to reduce costs etc.
3. Value Engineering Results shall be captured in the Value Engineering Log. It is the responsibility of discipline leads and other team members to provide examples of these activities to the Project Secretary who will keep the file up-to-date.

6.9.1 Purpose

The main purpose of Value Engineering for the Atlantis Subsea Systems Team is to minimize life cycle costs and eliminate unnecessary or redundant systems/components. Specifically, identifiable up front capital costs should be weighed against less defined operating and maintenance costs. In addition, Value Engineering and the effect of the chosen option on the Quality Plan should be considered along with the potential effect on various internal and external interfaces.

Throughout the design phase, each system and component should be scrutinized with questions such as:

- Is this component required?
- Why is it required or not required?
- What are the risks if we eliminate this component?
- Is there a simpler, less expensive alternate to replace this component?
- What is the Life Cycle cost of this system and its alternates?
- What is the effect of changing this component on other systems?
- What is the net effect of this change on overall project economics?

6.9.2 Identification Of Issues

For the purposes of Subsea Systems Value Engineering, the identification of issues could include engineered components or the value of up front engineering versus savings at a later date.

A good process to initiate Value Engineering would include:

- Define the scope of the component or system to be analyzed.
- Identify the desired outcome upon completion of the effort.
- Identify any information required for the analysis.
- Identify limits to help maintain the focus of the analysis.
- Perform cross-discipline reviews as required.

6.9.3 Roles and Responsibilities*

The BP Project Engineer, with assistance from the Lead Engineers and equipment Contractors, will identify and initiate issues that may benefit from Value Engineering. All technical evaluations should include reviews by the Lead Engineers, Technip engineers, Contractor staff and Third Party specialists or Consultants when appropriate.

Often there are cost implications associated with Value Engineering. To assist this effort, the specific equipment Contractor shall gather all associated design, fabrication and testing costs to establish a cost baseline for Value Engineering analysis. The BP Project Engineer should direct this effort as it pertains to their equipment.

6.9.4 Methodology

The following methodology is a suggested approach. Each Subsea Systems Lead Engineer may modify this method to suit individual cases

For all changes or additions, challenge the need and identify options. If design or procurement is being initiated on an item or system that was not detailed earlier, identify, evaluate and consider all options.

In general, ask the questions listed in Section 6.9.1. Interface meetings should be arranged with the appropriate groups to evaluate the proposed changes or additions and the philosophy behind the proposed change.

For Life Cycle costs:

- Determine the capital costs and years of expenditure.
- Determine the periodic operating costs and years of expenditure.
- Determine the risk associated with each cost.
- Perform economic model analyses.
- Make a decision if the base design or an alternative case is the best solution.

* See Attachment 9 for ANF/DC3 specific requirements

6.9.5 Implementation

After a Value Engineering analysis has been performed and documented, further actions may be taken as appropriate to implement any required changes. If the magnitude of the proposed change warrants, a Management of Change (MOC) process should be initiated (reference MOC Procedure 1440-10-PM-PR-0255, Rev 2).

Example:

During the preliminary engineering phase of Atlantis, the Subsea Systems Team carefully considered the preferred configuration of the Subsea production and water injection trees. During this Value Engineering process, the team evaluated a large number of technical, operational and cost issues related to the tree configuration. As a result, the horizontal tree configuration was selected as the most economical and technically preferred for Atlantis.

In the Value Engineering analysis, an economic evaluation was performed to determine the preferred configuration based on inputs from considering several drilling, completion and workover scenarios.

In refining the basic tree configuration, a dual hub tree configuration was selected. Dual hubs enabled all electro-hydraulically actuated valves to be moved from the Subsea manifolds to the tree. This decision significantly reduced costs by eliminating any control requirements for the manifold, increased reliability by moving potential failure points from the manifold to the more easily retrieved tree, and simply reducing the number of relatively costly actuated valves.

Additionally, the dual hub configuration improves flow assurance by providing a circulation path to permit dead oil displacement of the well jumpers and a circulation path for hot oil warm-up prior to well startup.

All of these options were carefully considered during a focused Value Engineering effort by the Subsea Systems Team.

6.10 Design Freeze Log

A Design Freeze Log is maintained by the project. When items reach design completion, these items are considered frozen and as such, these items will then be considered to be controlled by the MOC process.

In some cases, rolling or stepwise design freezes will be considered while approaching total project design freeze. Design freeze milestones will be introduced to the project schedule when design freeze dates are agreed.

The project will maintain an Atlantis Design Freeze Register and issue Design Freeze posters from time to time.

6.11 Areas of Concern - Critical Issues

Areas of Concern are captured in monthly reports produced by the vendors and Technip. The red, yellow and green color-coding system is used to flag issues by criticality. The top three areas of concern for the Subsea Team are tabulated in the Subsea Section of the highest level Atlantis Monthly Report that is produced by the Atlantis Project Services Group.

7.0 INTERFACE MANAGEMENT

7.1 Interface Management Overview

An Interface Management System will be used by the Subsea Systems Team and all prime contractors to record, track and report the status of any interfaces that are identified between their equipment area and any other Atlantis Project Team or contractor's team. Each prime contractor will use a similar system to track their internal interfaces, especially with their subcontractors and major suppliers.

The Interface Management System provides the mechanism for the orderly transfer of information between the contractors and other groups associated with the project. Used properly, the interface system will not create a bottleneck in the flow of information but will prevent costly omissions and oversights. Given the large number and complexity of the Atlantis Project equipment systems, the Interface Management system is essential for tracking the various interfaces and providing a proactive approach to solving the problems.

The Atlantis Subsea Team Interface Coordinator will be responsible for managing all interfaces relating to the Subsea Systems scope of work. The Atlantis Interface Management Plan (1440-10-AD-MA-001, Rev B) describes the interface process in detail. The Plan includes the following interfaces:

- Interproject Interfaces
- Intraproject Interfaces
- External Interfaces (e.g. with subcontractors)

7.2 Interface Management Scope and Objectives

The Interface Management Plan consists of 3 major parts:

A. Interface Responsibility Matrix
B. Interface Query
C. Interface Log

The Interface Responsibility Matrix identifies the various owners of information throughout the project life.

The Interface Query identifies requested information, actions to produce information, documents required to define information, criticality, requestor, respondent, date needed, cost and schedule impact.

The Interface Log records and tracks queries and results. The Interface Log is used to prepare the Interface Report section within the monthly Subsea Project Status Report.

7.3 Basic Tenets of the Interface Management System

The individual BP Lead Engineers and Technip engineers should provide the individual interface item inputs into the system. An interface query will be recorded whenever design data or information must be requested from another contractor or subcontractor. In addition, interface queries will be used to bring operational or schedule related issues to the attention of BP whenever appropriate.

The Interface Query process is described as follows:

- Interface initiator completes Interface Query form
- Interface Query form submitted to Interface Coordinator to be logged in Interface Log
- Interface Coordinator forwards Interface Query to actionable respondent as determined by the Interface Coordinator
- Actionable respondent completes query form and returns to Interface Coordinator
- Interface Coordinator closes query upon satisfactory response and updates Interface Log
- Interface Coordinator issues monthly Interface Log status document through Document Control to appropriate Lead Engineers and contractors

Once parties agree that an interface issue may be closed and closing signatures are appended to the detailed query form, a formal Query package shall be released through Document Control.

8.0 PROCUREMENT AND PROCUREMENT PLAN*

8.1 Procurement Scope of Work

BP Supplier Contract Management (SCM) personnel, supported by assigned Technip staff, shall be responsible for executing the procurement procedures in accordance with BP GoM Deepwater Project Execution Plan (1440-30-PU-MA-0031). This procurement and materials plan provides guidance for the processes, functions, management and system for procurement activities.

The responsible BP Lead Engineer for the individual equipment areas will review, comment and approve all assembly level Bills of Materials, Procurement Specifications, Component Data Sheets and Work Package Releases prior to the release of these documents for procurement actions.

The Atlantis SCM team will meet the procurement goals and objectives by focusing its efforts in the following major areas:

- Ensure that all equipment, materials and services are purchased at the lowest acceptable cost from approved worldwide suppliers who have demonstrated commercial and technical capabilities with consistently timely deliveries.
- Take overall responsibility for cost, quality and delivery of purchased equipment, materials and services.
- Where possible, make use of global sourcing networks and frame agreements.
- Ensure that key project procurement staff is recruited from the most experienced technical and commercial personnel available.
- Manage the projects to comply with all BP GoM Deepwater Development requirements.
- Work closely with the BP Discipline Lead Engineers to ensure the best technical information is being used during procurement activities.

8.2 Procurement Document and Material Control

The Atlantis Project Wells Systems / Subsea Procurement Execution Plan (1440-30-PU-MA-0031, 3478-BRO-PA-001, Rev. 2) contains full information and the tools for conducting all activities associated with procurement. (This Procurement Execution Plan is sometimes referred to as the Procurement Tool Kit.)

The BP Lead Engineers shall be responsible for identifying all key equipment, materials and services to be purchased for the project. Additional services may be required of the BP

* See Attachment 9 for ANF/DC3 specific requirements

Lead Engineer such as providing a scope of work and supply for specific equipment or services, providing suggested bidders or suppliers, and providing proposed logistics for identified items.

8.3 Request for Quotations, Work Package Release and Requisitions

The responsible BP Lead or Project Engineer initiates / completes the appropriate documentation as per the examples contained in the Procurement Execution Plan:

A. Frame Agreement Project Release Procurement
   A-1. Frame Agreement Instructions
   A-2. Change Orders for Frame Agreement
B. Purchase Orders
   B-1. Purchase Order Instructions
   B-2. Change Orders for Purchase Orders
C. Requisitions
D. Provisional Acceptance Notices (PAN)
E. Request for Quotations
F. Contracts
G. Appendix
   G-1. Supplier Management System / Document Management – Adding / Modifying a Contract (New SMS)
   G-2. Standard Safety Questionnaire (SSQ)

8.4 Bid Receipt and Evaluation

Purchasing will monitor bidders for timely submittal of bid responses. Following receipt, technical and commercial reviews will be made of the bids. Discussions will be held with vendors, as necessary. Attention will be paid to the conformance with technical specifications, project schedules and assurance of cost in accordance with established agreements.

A complete and consolidated recommendation will be prepared and presented for BP review.

8.5 Purchase Order Award

Final review meetings will be held with purchasing, engineering and vendors, to validate all aspects of the approved commitment. Purchase Orders will be written to record the terms of the Agreement.

8.6 Post Award Administration

To ensure proper implementation of awarded orders, the Purchasing group will administer Purchase Orders and associated activities after award.

8.7 Procurement Close Out Requirements

Purchasing will ensure that a procedure is in place, at contractor or vendor location, to ensure proper close out of project purchase orders.

9.0 CONSTRUCTION PLAN*

The Construction Plan is comprised of the following.

Subsea equipment manufactured by the selected vendors will be inspected and tested prior to being made ready for factory acceptance testing (FAT). Written plans will be produced to cover these and other associated activities, and shall be formatted in a manner to capture test results and other information.

Factory Acceptance Testing and Extended Factory Acceptance Testing Plan

The individual Subsea equipment Contractors shall prepare timely FAT and EFAT test procedures that test all critical functions of their equipment to ensure the equipment meets all relevant BP requirements, industry specifications, functional design specifications, detail design specifications and is fit for purpose in all respects. The responsible BP Lead Engineer will review and approve all Contractor test procedures to verify the equipment's acceptability. He/she will ensure that all test procedures (FAT, EFAT) are suitable for verifying the completeness of the work and that procedures include acceptance criteria consistent with the equipment specifications. These procedures will also be reviewed by the BP QA/QC Lead Engineer.

Systems Integration Test (SIT) Plan

The Subsea Systems' SIT will be jointly planned by the BP Lead Engineers, Technip Leads and the Contractor team. The detailed SIT plan and procedures will be prepared by the specific equipment Contractor with technical input from BP and Technip and approved by BP Leads as appropriate.

The SIT shall serve as verification of component compatibility and fit-up and confirm proper operation of the combined deepwater equipment. In addition, ROV interfacing shall be simulated to verify accessibility and workability. Results of the SIT will determine if any equipment modifications are necessary prior to final assembly in the field.

The SIT will provide an opportunity for review and evaluation of operating procedures, maintenance and inspection procedures, installation procedures and emergency / contingency procedures. The SIT shall also provide the opportunity for training operating personnel and offshore installation personnel.

Equipment and Other Data

* See Attachment 9 for ANF/DC3 and attachment 13 for ADC specific requirements

During project engineering, equipment fabrication and testing, many documents are produced which include the following:

Job Data Books

The requirements for the Contractors to provide Job Data Books are specified in the Atlantis Quality Plan (3478-BQA-PA-0001) and the individual equipment Functional Design Specifications (FDS). Such documents will be delivered as specifically defined in the Contractor Data Requirements document (1440-10-1M-PR-0231). Basically, the Subsea Systems Job Data Books include the following major documents:

- Design Data Books
- Manufacturing Data Books
- Installation & Operation Manuals
- Maintenance & Repair Manuals

Design Data Books

The requirements for the equipment Design Data Books are outlined in Section 6.2. These Contractor-prepared documents include a design summary, design details, technical criteria and all supporting engineering design documentation required to demonstrate that the design conforms to the FDS, SoR and DBD. These Design Data Books will be reviewed and approved by the BP Discipline Lead.

Manufacturing Data Books

The Manufacturing Data Books (MDB) will be assembled by the equipment builder and used to maintain a record of procurement, manufacturing, inspection and testing associated with the equipment being delivered. The MDBs will primarily be a Quality Assurance responsibility. The responsible BP Lead Engineer will provide assistance where required in the development of the format for the MDBs, and will review specific technical material in the MDB as requested. The MDB shall normally contain the following information as applicable and as a minimum:

- Bill of Material
- Material Test Reports (including chemistry and mechanicals)
- Heat treating records
- Certificate of Conformance (COC)
- Weld maps
- Post-weld heat treat records

- Non-conformance reports
- NDE reports
- Critical dimensions inspection
- Hydrostatic test charts (assembly only)
- FAT signoff sheets (assembly only)
- Serialization of components report (assembly only)
- Coating documentation and test reports
- Electrical continuity test reports
- Pipe bending reports
- Weight certificates
- Lifting sling certificates (if applicable)
- Drift reports
- Valve / other component test reports
- Padeye load test reports

It will be the responsibility of the BP QA/QC group to review and accept the manufacturing data books.

Installation and Operational Manuals

Installation and Equipment Operation manuals will be developed by the appropriate equipment supplier. The manuals will be reviewed and approved by the BP Discipline Leads and by a representative from the Operations group.

Add equipment tagging information and dealing with electronic books with book marks shall be in accordance with BP Document 1440-30-GE-RP-0145 (Technip Document no. 3478-BSB-PA-0032) and instructions per BP Supply Chain Management-Deep Water, Deep Gas Business Unit. See email in Attachment 10 by Rochelle Savel.

Maintenance and Repair Manuals

Maintenance and Repair Manuals will be developed by equipment manufacturers with associated guidance from the Subsea Systems Team under the leadership of the respective equipment BP Lead Engineer. Manuals will be prepared using the following guidelines:

- Manuals to include integrated system level procedures with sufficient detail to support the planned offshore operations.
- Include possible contingency operations associated with normal operations.
- Ensure the procedures include input from the Operations, Drilling, Installation and Commissioning Teams, and other Subsea System Contractors.

- Ensure that Planned Maintenance (PM) schedules are consistent and format with the overall Project Schedule.
- Ensure that Troubleshooting Charts are prepared in detail, taking all possible failure modes into account.
- Ensure that the Safety Precautions are highlighted and clearly defined for each procedure.
- Ensure that the offshore operations staff is informed of equipment and tooling required to perform offshore maintenance.
- Clearly identify what maintenance or refurbishment operations should, or should not, be performed offshore.
- Electronic data and file size for the Atlantis project shall conform to requirements as stated in BP Document 1440-30-GE-RP-0145 (Technip Document no. 3478-BSB-PA-0032) and per BP Supply Chain Management-Deep Water, Deep Gas Business Unit. See email in Attachment 10 by Rochelle Savel.

Maintenance and Repair manuals will be developed by the appropriate equipment supplier.

9.1 Construction Scope of Work

The final design and construction activities of the Atlantis Project are divided into the PQ Hull, Mooring, Topside Modules, Subsea Systems (and related equipment). A Subsea Installation Team and a Commissioning & Start-up Team will be formed to work with the installation contractor(s) and to manage the offshore work during the later stages of the project.

The organization chart for the Subsea Team is included in Attachment 1. Detailed Installation Commissioning Procedures will be developed to cover these activities.

9.2 Constructability Plan

The Construction Industry Institute (CII) defines constructability as the optimum use of construction knowledge and experience in planning, design, procurement, and field operations to achieve the overall project deliverables. Constructability differs from Value Engineering (Section 6.9) in scope and manner of analysis. Value Engineering focuses on functional analysis and project life cycle costs, while Constructability is achieved by utilizing construction experience in a well-structured and appropriately timed manner. This philosophy will be maintained throughout the final design, fabrication, testing and installation phases. The full benefits of constructability require a proactive approach that must be driven by the individual BP Lead Engineers in their respective equipment areas. A Subsea Systems Constructability Plan will be executed by applying the construction knowledge and

expertise of the entire Subsea Systems Team: BP Leads, Technip engineers, Contractors and subcontractors at an early stage to the component and system designs of the project.

During the design phase of the project, future manufacturing costs can be attained by designing with the manufacturer's capabilities in mind. This approach applies throughout the entire design process, not only in the selection of forms, fittings and construction of parts, but also in material selection with respect to machinability, weldability and required heat treatment.

It is also important to carefully review the functional design and detail design requirements prior to fabrication to ensure that individual components both meet the necessary specifications but do not grossly exceed these specifications, thereby adding additional cost. Each component, subsystem and system of the project must meet the requisite specifications and be fit for purpose.

It is the intention of the Atlantis Subsea Systems Team to apply these principles and satisfy these requirements by continuous survey and analysis of the ongoing design, planning and manufacturing activities. Each BP Lead Engineer will be familiar with the Constructability Plan and its underlying philosophy, and ensure these principles are constantly being applied to the project.

9.2.1 Roles and Responsibilities

The Constructability Plan addresses the Subsea Systems project management strategy to ensure that the equipment will meet constructability through all phases of the project including:

1. In-plant fabrication
2. FAT and EFAT testing
3. System Integration testing
4. Offshore installation
5. Maintenance operations
6. Retrieval and replacement if necessary

This Constructability Plan will assist the Contractors in completing their work scopes by promoting efficient constructability analysis methods complementary with existing industry practices. This activity should neither impede the progress of the project or its sub-projects but should improve both the scheduled progress and overall cost-effectiveness of the project.

The Subsea Systems Team will take the following actions in implementing the Constructability Plan:

- Ensure all Subsea components, sub-systems and systems equipment meet the operational needs of the Atlantis Field requirements.
- Ensure that all Subsea Systems equipment meets the required FDS and detail design requirements.
- Ensure that all Subsea Systems equipment meets the safety and technical requirements of BP, BHP Billiton, industry and the obligatory federal and state regulatory requirements.
- Provide equipment that can be installed from the DD II or PQ as indicated in the respective Installation Procedures.
- Ensure that all ROV intervention activities can be accomplished.
- Serve as a source of information for other delivery teams (Hull, Topsides, etc.) interfacing with the Subsea Systems equipment.

In general, the Contractors are responsible for preparing their own Constructability Plans to support the overall plan and to perform their contractual duties within that plan. The Subsea Systems Team, through its individual BP Lead Engineers, will provide the technical leadership and experience to direct the Contractors and their sub-contractors as required, to complete their work in conformance with the specifications. The Subsea Systems Team will also provide the necessary link for all critical items and will serve as the information interface with the Installation Contractor.

9.2.2 Constructability Means And Methods

The following means and methods will be applied to accomplish the above

Responsibilities. A designated Subsea Systems Team representative, normally the BP Lead Engineer, or his/her authorized representative, will be available at each Contractor's facility to:

1. Monitor and report material and technical progress of the Contractor and its sub-contractors.
2. Monitor and report all QA/QC requirements in accordance with the Atlantis Quality Plan (Technip Document No. 3478-BQA-PA-0001, BP Document No. 1400-30-QA-PR-0002).
3. Provide technical leadership and experience as needed to the Contractor.
4. Include representative(s) from Contractor into Atlantis Subsea Systems Team.
5. Review engineering work to ensure that equipment designs, technical specifications, procedures and other engineering work meet the contractual requirements.

6. Work with the Contractor(s) engineering teams to develop technical interface solutions and resolve technical issues.
7. Provide prompt responses to all technical queries, interface queries and clarification requests received from Contractor(s).
8. Review test procedures, operating manuals and maintenance/repair manuals for technical quality and content.
9. Disseminate appropriate Company technology and engineering information to Contractor(s) staff.
10. Assist in the following activities without appreciably delaying progress:
    - Conduct QA/QC and material reviews.
    - Analyze system and component interfaces, including running tools, connectors, valves, ROV interfaces, stackups, jumper installation tolerances, etc.
    - Monitor manufacturer's qualification programs with respect to design reviews, prototype assembly and testing. Witness appropriate tests.
    - Closely monitor the manufacturer's construction quality and review all non-conformance reports. Ensure that equipment is "fit for purpose" and meets all relevant project specifications.
    - Review manufacturer's FAT, EFAT and SIT procedures.
    - Subject finished products to a Final Factory Inspection and approve release for shipment.

Constructability Plan results are captured in Design Review, Hardware Quality Plan, Manufacturing Process Plan and other related documents.

9.3 Contracting Plan

Foundation for the Contracting Plan can be found within the Frame Agreements that have been put into place with the BP selected vendors.

Subsea Systems Team

Frame Agreement contractors have been selected to provide the necessary engineering, fabrication, testing, and installation experience to the Atlantis Project, using the "best player plays" criteria noted earlier. The Subsea Systems Team (SST) is headed by the Delivery Manager who is directly supported by the appropriate discipline BP Lead Engineers. This core technical management team in turn is directly supported by a technical support staff comprised of Technip Offshore Engineering, Inc. (Technip), FMC and NEXANS. Subsea 7 will be the umbilical installation contractor. The flowlines and risers installation contractor will be identified in 2003.

Contract Administration will include monitoring the long-term contract-related requirements of Atlantis, including those of each of the individual Delivery Teams. The overall contract administration has been assigned to Mustang Engineering, Inc., working on behalf of BP.

The Subsea team's Contract Administrator will be responsible for financial reporting, budget preparation, vendor contracts, cash flow analysis, and vendor change orders. These responsibilities include reporting any contractual modifications and Management of Change processes necessary to meet the project goals and objectives. On a daily basis, each BP Lead Engineer will be responsible for achieving the contractual goals and objectives within his or her assigned discipline.

The overall subcontractor management strategy is to control risk and maximize value. In support of this objective, the BP contracts and procurement group and its Technip support group will develop long term partnerships with subcontractors and vendors based upon historical professional relationships and new relationships with audited subcontractors that are added to the Approved Bidders List as the project develops. All subcontracts must meet the Atlantis Project requirements; such contracts are controlled by assigned personnel as described within the scope of the BP Project Procurement Execution Plan (1440-30-PU-MA-0031).

The subcontracting management strategy developed for Atlantis includes the following essential features:

- Subcontract the parts of the overall Atlantis Project to product groups where the suppliers have core competency or can provide overall benefit to the project.
- Pre-qualify potential subcontractors as critical elements to the success of the project.
- Subcontractors may use internal procedures and schedules if the seller's process meets the Atlantis Procurement Team's minimum requirements.
- Subcontractor and supplier warranty periods and liabilities will be transferred to the project under the BP procurement terms.
- Subcontracting strategies will seek to: align interests, compensation and risk allocation; simplify contractual interfaces; maximize scope definitions to reduce change order potential; and develop "win/win" arrangements.

9.4 Project Management Plan*

The Subsea team is led by the Delivery Manager who will be supported by the BP Project Engineer and specialist BP lead engineers. Specialists and Technip personnel will comprise

* See Attachment 9 for ANF/DC3 specific requirements.

the remainder of the Subsea team. A Technip Project Manager will be assigned for managing personnel and work scope. The Technip Project Manager is responsible for ensuring that all aspects of Technip supply meet the intent of Design Engineering Services Contract (No. BPA-00-01772). Project Management will be in compliance with the referenced contract and subordinate documents and where none exist will use Technip Project Management Practices.

9.5 Operability

Since the Atlantis Field is located in the deepwater frontier in the GoM, all Subsea equipment support operations will be diverless. Current project plans are to have two dedicated ROV system onboard the DDII through first oil and thereafter as deemed appropriate. These ROV systems, including full tooling packages, will be used to assist in the day-to-day production operations which will include manual valve operation, routine inspections and planned and unplanned maintenance. All Subsea equipment (e.g., trees, manifolds, jumpers, control SCMs, etc.) will be installed or retrieved using ROV support.

Due to Atlantis site water depth and relative remoteness (approximately 190 miles South of New Orleans), considerable emphasis has been placed upon component and systems reliability. Using the design philosophy and activities described in Section 6.0, Technical Management Plan, the Subsea Systems Team has focused upon long-term reliability and operability as major design objectives for all Subsea equipment being provided.

The Subsea equipment being developed for the Atlantis Project will be designed to operate effectively and reliably during the following operations:

- Drilling Operations
  - Running and retrieving wellhead systems
  - Running and retrieving test trees
  - Installing and operating IWOCS
- Workover support
  - Completion and Production Operations
  - Well startup
  - Monitoring pressure & temperatures
  - Switching wells to test
  - Routine and emergency shutting in wells
  - Chemical injection
  - Hydrate monitoring and remediation
- ROV Operations
  - Inspection and CP monitoring

  - Pipeline touchdown and pipelay support
  - Pile installation support (suction or drilled)
  - Jumper installation and test
  - Hydraulic and electrical flying lead installation
  - Equipment installation / retrieval (trees, manifolds and jumpers)
- Maintenance and Repair
  - Subsea choke insert and SCM replacement
  - Subsea tree, manifold and jumper replacement
  - Valve override
  - Hydrate remediation support (seawater heating)

Plans and procedures will be developed for drilling, completion, installation and workover operations based upon the best BP practices available. These plans will draw upon BP's worldwide experience to ensure safe, environmentally sound, and cost-effective operations.

The Atlantis Subsea Systems Team is comprised of personnel with diverse backgrounds in drilling, production operations, pipeline construction, Subsea equipment development and ROV operations. This team, together with the Contractor's technical teams, will ensure that operability and reliability are not compromised in the design, fabrication and testing of the Subsea equipment.

9.5.1 Roles and responsibilities*

The individual BP Lead Engineers have the prime responsibility for developing appropriate operating procedures for their respective Subsea equipment. Within the overall Atlantis Team, the Subsea Systems Team will develop these procedures jointly with the Drilling and Operations groups as appropriate to ensure the operability and long-term reliability of the Subsea equipment.

Planning for field operability begins during the design phase of the equipment. To provide the necessary input and involvement of the Drilling / Completions and Operations groups, a series of Operability Reviews have been planned during the development of the Subsea hardware. The BP Lead Engineers will work with all the contractors to ensure that various suppliers of components and sub-systems for the Subsea equipment will interface with each other and the other equipment areas (i.e., Topsides, Hull Systems, etc.).

* See Attachment 9 for ANF/DC3 specific requirements.

9.5.2 Objectives and Goals

The operability objectives for the Subsea Systems Team are to ensure that the Subsea equipment is designed in a manner that provides safe, continuous and easily accessible operations. These objectives should be met during all phases of the project: drilling, installation, production and maintenance. Sufficient flexibility in design will be incorporated to allow for future enhancements to expansion and / or rearrangement.

9.5.3 Resources

As described in Section 6.1, the BP Lead Engineers will assume leadership responsibilities for the development of their respective equipment packages. They will be supported by contractor personnel as required. The Subsea System teams will work closely with the Atlantis Drilling / Completions and Operations groups as appropriate to ensure effective operating plans are developed. Contractors who are participating with the equipment fabrication and installation will also contribute to the preparation of the operating procedures.

9.5.4 System Integration Testing (SIT)

A comprehensive series of tests will be performed on the Subsea equipment during the SIT. The SIT testing is intended to verify the compatibility of all interfacing components. Each Contractor will be responsible for coordinating their respective equipment for the tests. The Atlantis Subsea Systems SIT will likely be performed by FMC at its Gears Road facility since it is the supplier of most of the Subsea systems.

Each Contractor will provide a list of their recommended tests required to verify proper operation and interfacing of their equipment with other supplier's hardware. Extensive tests will be performed to ensure adequate ROV tooling access and operation of the intervention hardware.

Other off-site (FMC) tests will be conducted if it is determined that such tests (i.e., ROV Tooling Tests) are of advantage to the project.

ROV procedures and SIT testing will be managed by the BP Well Systems Lead.

9.6 Transportation Plan

A definitive Subsea team Transportation Plan has not yet been prepared for the Atlantis Project. However, the overall responsibility for establishing the necessary contractual arrangements will be assumed by the BP Subsea Systems Project Administrator. Insofar as specific equipment packages are concerned, it will remain the responsibility of each BP Lead Engineer to ensure that his/her equipment has been fully tested and complete in all

respects regarding hardware and documentation before the equipment is loaded for shipment. The equipment documentation will include all deliverables identified in each Work Package Release's "Contractor Data Requirement List" (CDRL) and/or each equipment functional design specification (FDS).

9.6.1 Purpose

The purpose of the Atlantis Subsea Transportation Plan is to ensure all Subsea hardware is shipped efficiently, cost-effectively and in a timely manner. Good management of the individual equipment shipments is essential to avoid costly delays in the program, especially if overseas shipment is necessary. A project goal will be to economically organize crating, freight, insurance and documentation for all Subsea equipment.

9.6.2 Implementation

A Transportation Plan has been put into place by the Subsea Team for the Atlantis project and it is found in BP document # 1440–10–PU–PR–0009 (Technip Doc # 3478-BPO-PA-0002) Logistics and Transportation Plan

It is expected that the BP Procurement Group with Deepwater Development (DWD) logistics will develop a detailed Transportation Plan in due course. This plan should include the appropriate contractual arrangements and processes with common carriers for the necessary hardware packing, shipping, documentation and insurance. Opportunities to reduce transportation costs should be identified in the Plan, such as consolidating shipments when possible, co-insuring with the manufacturer's coverage, etc. This plan will need to be customized to Atlantis Subsea by the BP Project Administrator.

A separate schedule and procurement database will be established and maintained to track materials and monitor shipping status. The schedule will link to the master Subsea Systems Project Schedule to highlight any critical path items. Weekly reports should be prepared giving the status of delivery and highlight any item that may require expediting. The schedule and weekly procurement status report will be distributed to provide project-wide notice of shipping and project needs. The weekly report should also include performance-measuring sections to highlight goal achievement and report upon such transportation parameters as mean time for shipment, on-time delivery, late delivery and cost vs. budget reviews.

Equipment packaging will be as per Frame Agreement, contract or as otherwise agreed and approved by the Subsea team. It is expected that the BP Procurement Group will arrange the necessary packing for safe handling. Shipping, with appropriate documentation and insurance arrangements through BP selected carriers, shall be approved by BP.

9.7 PQ Integration Plan

A detailed plan and schedule shall be developed to cover the installation and integration of equipment as to the PQ host vessel. This plan shall be developed by the Subsea Installation and Integration Team (IIT), now the Offshore Leadership Team (OLT).

The Integration Plan shall address such issues as:

- Contractors
- Project Management
- Equipment Installation
- Commissioning
- Operations
- Work Execution

9.8 Offshore Installation Plan*

The Installation Plan for the Atlantis Subsea equipment includes installation of the following equipment. The plan, to be developed by the selected Installation Team, will include a detailed schedule and information similar to that listed in Section 9.7 above.

- PLET Initiation Piles
- Manifolds
- Manifold Foundation Piles
- Production / Test Flowlines and Risers
- Water Injection Flowlines and Risers
- Pipeline End Terminations (PLETs)
- Flowline Anchoring Units
- Hydraulic Umbilical Termination Assembly (HUTA)
- Electrical Umbilical Termination Assembly (EUTA)
- Hydraulic and Electrical Umbilicals
- Hydraulic and Electrical Flying Leads
- Manifold to Manifold Jumpers
- Tree to Manifold Jumpers
- PLET to Manifold Jumpers
- PLET to PLET Jumpers
- Production Trees
- Water Injection Trees

* See Attachment 11 for Split Campaign

- Manifold Pigging Loops

Installation procedures, schedules and plans will be developed to facilitate a safe and efficient installation for all of the above equipment with attention to the ability to retrieve the equipment or retrievable parts of it, if required for repair.

The primary purpose of the Installation Plan is to ensure that the interfaces, process of installation and the environmental conditions are adequately analyzed and investigated. The installation process for all of the above equipment must be considered during the design phase to ensure that the installation can be performed in a safe and efficient manner.

In the event that installation cannot be conducted as the base case schedule, a split installation campaign could be envisioned. Such a campaign will be conducted under a management of change (MOC) requirements. The "Split Installation Campaign" will be defined and described in attachment 11 of the document.

9.8.1 Scope Of Work

It is planned that development drilling by a mobile drilling unit (MODU) will commence in Q1, 2004. A total of five (5) production wells are planned to be completed prior to First Oil in Q2, 2006. The current development plan shows all wells being drilled from DC1 (Drilling Center #1).

Current development and installation schedules assume some overlap of drilling and installation activities during the first phase of installation. Primary installation contractors will be contracted to install the installation of the flowlines, risers, PLETs, umbilicals and UTAs. The Subsea construction at DC1, including trees, jumpers, flying leads, manifolds, piles and mudmats, is envisioned to be performed using the DDII dynamically positioned over DC1. This work, or parts thereof, may also be contracted to a different contractor if this proves to be efficient and operationally attractive.

The Subsea Systems Lead Engineers will endeavor to ensure that the equipment to be installed is designed for that purpose in a safe and efficient manner. This will include the incorporation of handling means (lifting eyes, running tools, etc.), provision for proper engagement with mating parts (orientation, soft landing, hydraulically or ROV-operated connections, high-angle make or break connectors, etc.), surface tests wherever possible to simulate Subsea remote connections, and generation of Assembly, Test, Running & Installation procedures for every Subsea installed component or system.

9.8.2 Organization

The ultimate responsibility for each of the subsea equipment packages resides with the BP Lead Engineer for each discipline. The major disciplines are: Flowlines and Risers; Umbilicals; Controls; Manifolds; PLETs; Jumpers; and Trees. The installation phase will be performed under the direction of the Subsea Systems Team with the BP Lead for each equipment area having the responsibility for installing his / her equipment. Each Lead will have access to an Installation Consultant that will provide specialized consultation, procedure development, contractor evaluation and support during the installation operations as required. The Installation Consultant will have responsibility for the overall safety and efficiency of the installation operations.

9.8.3 Interfaces*

The primary interface teams for the Subsea Systems installation activities include:

- For wellhead, tree and manifold equipment:
  - Drilling team
  - Topsides team
- For the flowlines and risers:
  - Floating systems team, which includes Hull and Topsides teams
  - Mardi Gras team
  - Commissioning team
- Atlantis PQ builder (DSME)
- Integration yard team

9.8.4 Implementation

The implementation of the Installation Plan shall be as early in the project as possible since installation is part of the considerations given to each component during the design phase. Preventing re-design or later revisions caused by unforeseen installation requirements can save significant time and money.

The preparation of preliminary installation procedures was started in August, 2002.

9.8.5 SIMOPs

The BP Installation team is responsible for preparation and development of the Installation Plans and SIMOPs Plans, with detailed plans being developed by chosen installation contractor. Such plans will be reviewed and approved by respective BP Leads and the BP Installation Coordinator.

---

* See Attachment 9 for ANF/DC3 specific requirements

9.9 Severe Weather Contingency Plan

A Severe Weather Contingency Plan will be developed once Installation Contractors have been selected. Responsibility for other severe weather plans remains with the Floating Systems and Operations Teams.

9.10 Offshore Logistics

Offshore logistics will be coordinated through the BP Fourchon facility by the BP Project Administrator or as otherwise directed.

9.11 Subsea Commissioning and Start-up Plan

A detailed plan shall be developed to cover the commissioning of Subsea equipment. This plan may be split into various sub-plans such as commissioning for PQ and commissioning for MODU. Additionally sub-plans can be considered which address specific specialist areas such as Control System, Diverter System, etc.

Each discipline lead is responsible for developing an associated plan while the Installation team is responsible for integration of all plans. Such plans should address issues of:

- Workforce make-up
- Operations
- Hook-up
- Commissioning
- Support for other teams
- Demobilization

9.12 Operations Plan

The Subsea Systems Team will assist Operations in developing a maintenance program for all Subsea equipment. This will include the acquisition of recommended spare parts needed for Subsea equipment for both planned and unplanned maintenance. The prime contractors, who are selected in part because of their experience and commitment to long-term service and support, will assist BP in the planning and documentation of the maintenance program.

9.12.1 Planned Maintenance

The BP Leads in conjunction with the Subsea Team and with Operations will acquire, review and approve the data necessary for planned maintenance procedures from the respective equipment manufacturers. This documentation will include repair manuals and the recommended schedule for planned maintenance and details of the maintenance operations. The manufacturers will also provide all identifications such as part numbers,

name plate data, etc. The planned maintenance schedule and component information will be inputted into an appropriate BP database system. The Subsea Team will also identify and provide any special tools or materials required to disassemble and/or repair the Subsea equipment.

The Subsea Systems Team will also work closely with Operations to ensure that appropriate training is available and taken by all technicians who will be working on the specialized Subsea equipment. Any specialized training, such as ROV equipment and operations, will be provided by the service company selected for this work. Each specialized equipment or service company providing technicians to the Atlantis Project will confirm to BP the specific training each technician has taken.

9.12.2 Maintenance Organization

Using input from the Atlantis Operations group, the Subsea Systems Team will outline the responsibilities for upkeep and repair of the Subsea equipment and set out a recommended operational hierarchy for carrying out future maintenance. Delegation of all maintenance responsibilities will be clearly defined within the onboard (PQ and MODU) organizations. If long-term maintenance is required by the Project, Operations with support from the Subsea Team will establish appropriate long-term support and service contracts with specified manufacturers.

9.12.3 Spares Philosophy

During the final design phase of the Subsea equipment, a recommended spares list will be developed for each of the Subsea systems and their components. It will be the responsibility of each BP Lead Engineer to ensure that this list is complete and accurate for his / her discipline equipment.

The recommended spares lists will be reviewed with the Operations groups for their inputs. In coordination with Operations, the Subsea Team will order the initial spare parts needed for field commissioning (start up) and a specified initial period of field production.

9.13 **First Year Production Efficiency** Plan

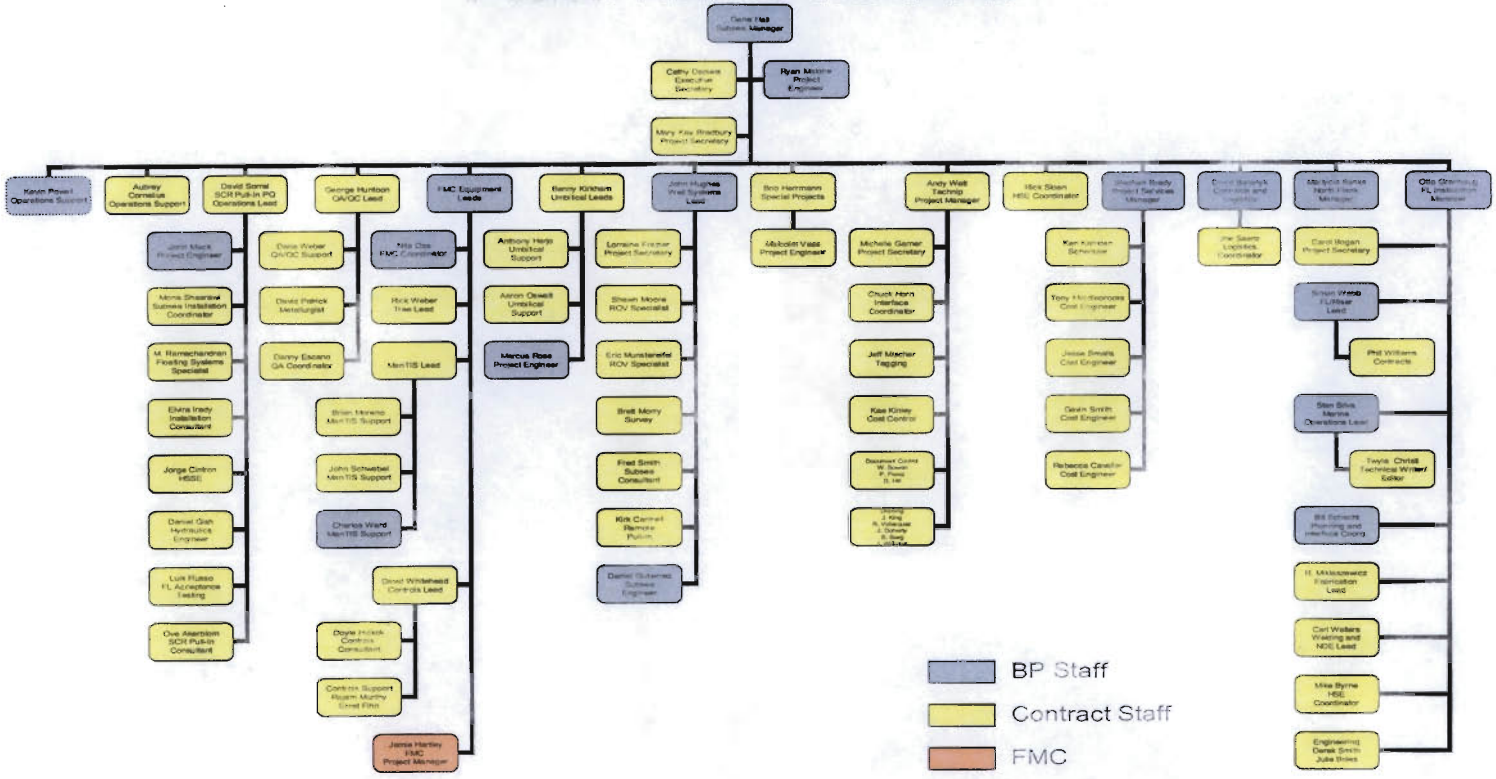
The Subsea system will be designed to maximize first year production efficiency as defined by Operations. Field layout will also incorporate systems or methods for enhancing production to meet production efficiencies beyond year one.

ATTACHMENT 1

Atlantis Project Organization Charts

- Atlantis Subsea Project Team
- Atlantis Project Services Team (See section 3.3.2)
- Atlantis Riser/Flowlines Installation Team
- Atlantis Project Team (FMC)
- ADC Org. Chart (See **Atlantis Project Team** Chart)
- DC 3 Execute Phase Org. Chart

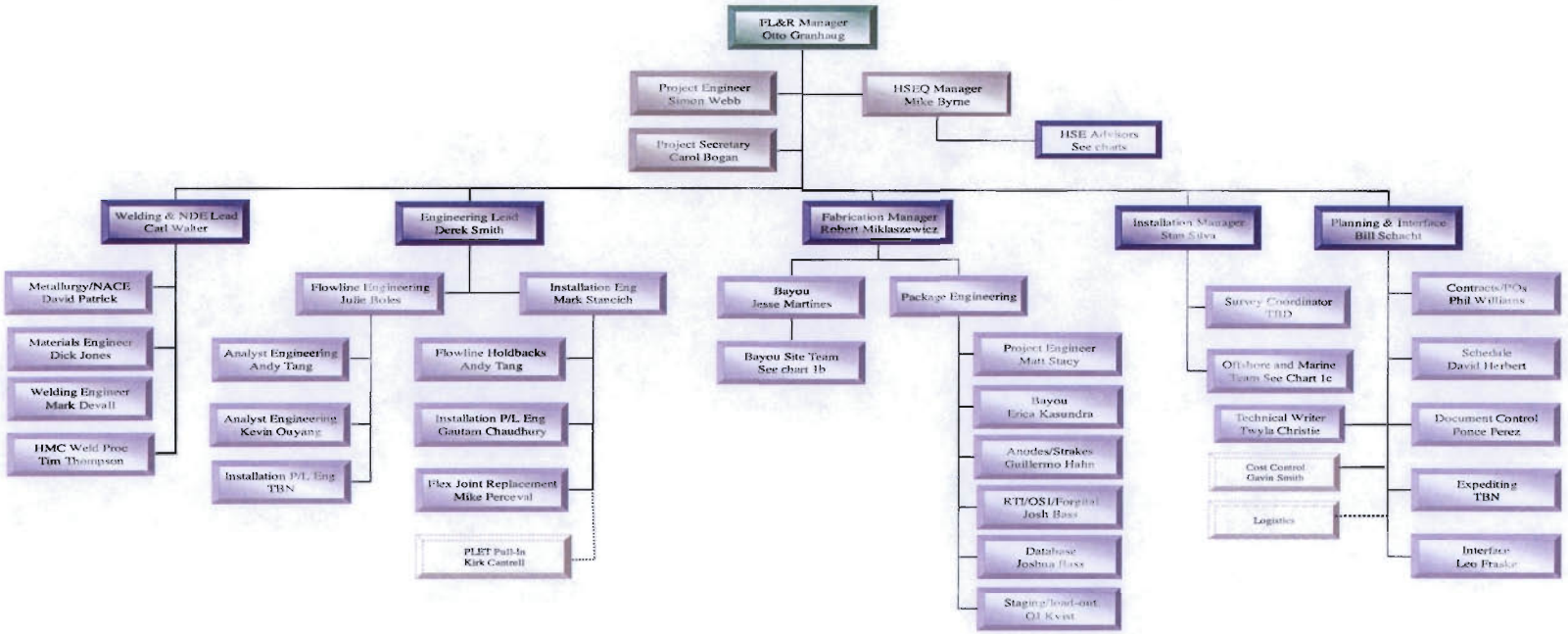
Atlantis Subsea



8/30/2006

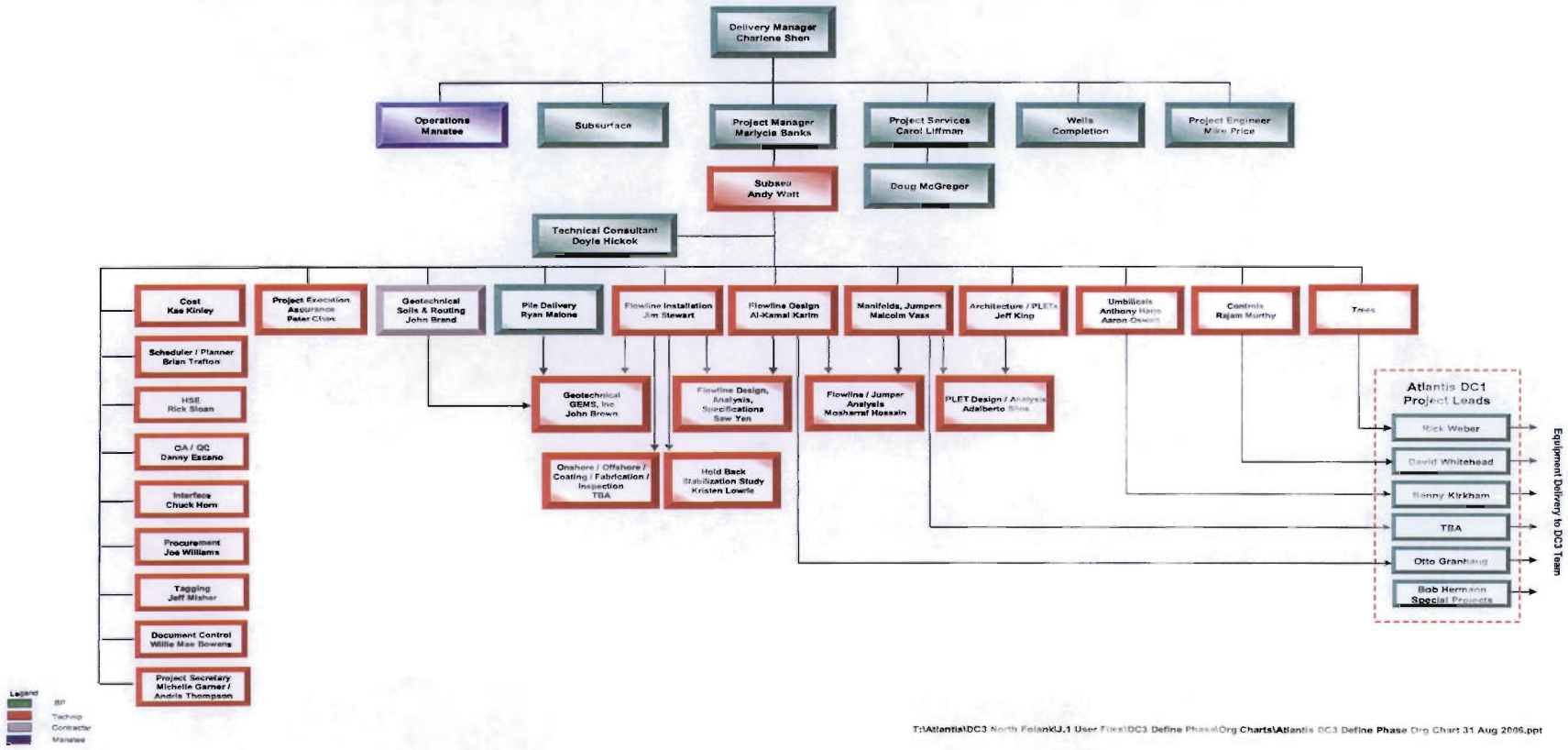
Case 4:09-cv-01193 Document 345-6 Filed in TXSD on 04/04/12 Page 142 of 183

Atlantis Flowlines and Risers Group Chart 1 – General Organization



Case 4:09-cv-01193 Document 345-6 Filed in TXSD on 04/04/12 Page 143 of 183

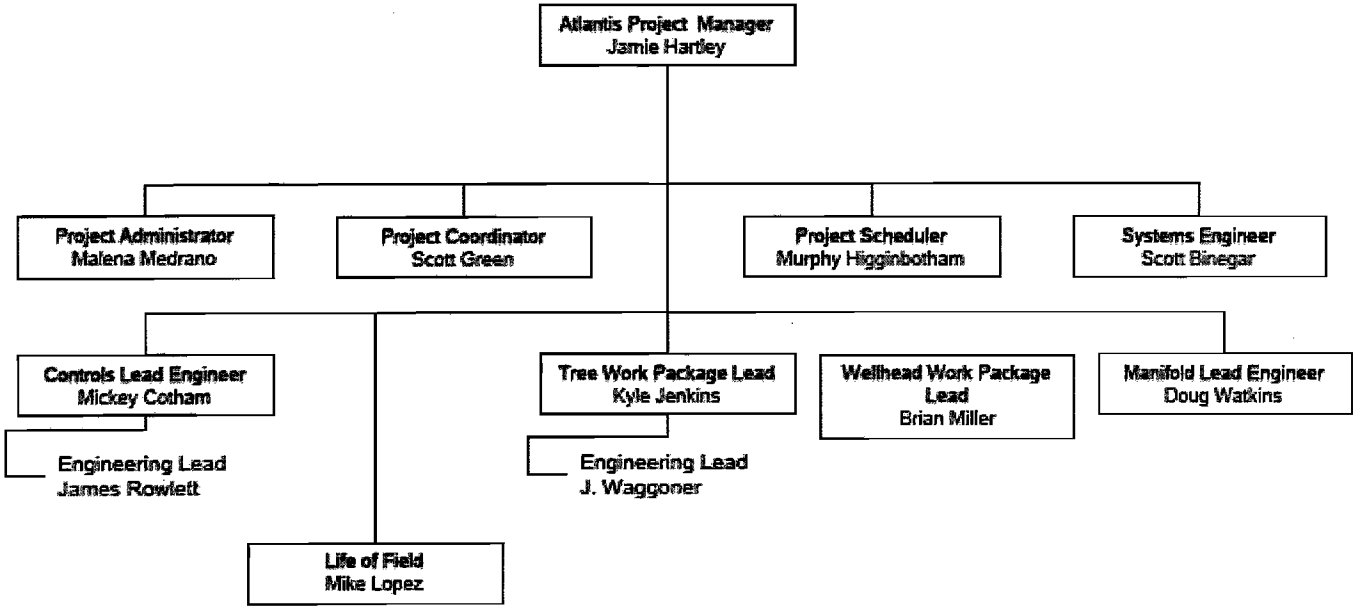
Atlantis DC3 Execute Phase Organization Chart



T:\Atlantis\DC3 North Fork\KJ.1 User Files\DC3 Define Phase\Org Charts\Atlantis DC3 Define Phase Org Chart 31 Aug 2006.ppt

Case 4:09-cv-01193 Document 345-6 Filed in TXSD on 04/04/12 Page 144 of 183

BP Atlantis



Case 4:09-cv-01193 Document 345-6 Filed in TXSD on 04/04/12 Page 145 of 183

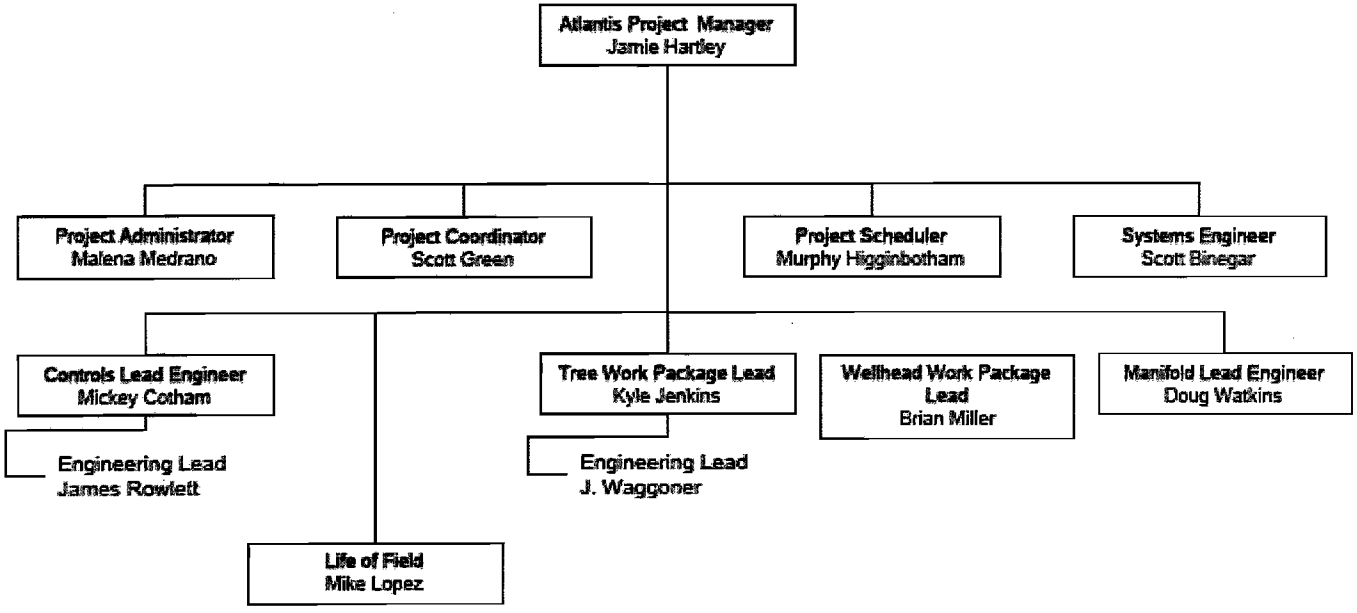
ATTACHMENT 2

Atlantis Key Representatives and Addresses

ATTACHMENT 3

Project Meetings Calendar

BP Atlantis



Case 4:09-cv-01193 Document 345-6 Filed in TXSD on 04/04/12 Page 148 of 183

ATTACHMENT 2

Atlantis Key Representatives and Addresses

ATTACHMENT 3

Project Meetings Calendar

ATTACHMENT 4

Work Breakdown Structure (WBS) Diagrams

ATTACHMENT 5

Schedules

ATTACHMENT 6

"BP Data Security and Information Brokering"

ATTACHMENT 7

INTERNATIONAL TRAVEL REQUIREMENTS FOR CONTRACTORS"

BP America Inc. – 11700 Old Katy Road – Suite 150 – Houston, TX 77095
Telephone: (281)249-4304 – Facsimile (281)249-4323

Surburban Physicians Center
12345 Katy Freeway
Houston, TX 77079
(281)679-5600

Hours of Operation
M – F 7:00 a.m. – 10:00 p.m.
S – S 8:00 a.m. – 9:00 p.m.

No Appointment Required

RE: INTERNATIONAL TRAVEL REQUIREMENTS FOR CONTRACTORS

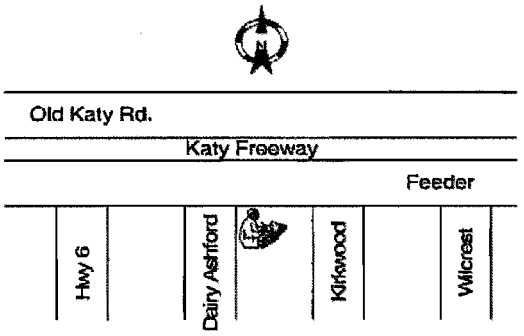
_____ requires a medical assessment, basic physical,
(Name of traveller)

UA, travel immunizations (if required), and travel kits to _____.
(Name of country)

SERVICES WILL BE PAID FOR BY THE INDIVIDUAL!

Should you require further information, please contact Cathy Daniels at (281)249-4304 or Gary Barker at (281)366-4766.

THANK YOU



ATTACHMENT 8

BPs GOLDEN **RULES OF** SAFETY

ATTACHMENT 9

DC3 Specifics

1.0 Following the Atlantis Statement of Requirements (SoR) Doc No.1440-10-AS-DC-001 Rev1, the Atlantis Design Basis Doc No. 1440-30-SB-DC-0033, the Atlantis North Flank Single Well Tie-back Project, Project Execution Plan (PEP) Doc No.1440-10-PM-RP-0002 is the highest level project execution plan document for the Atlantis North Flank (ANF) development. This attachment (Attachment 9) acts as the link between the higher level PEP described above and this PEP which describes the methodology under which the ANF/DC3 Subsea project team will operate.

The Project Management Plan, BP Document No. 1440-10-PM-PR-0003, contains the strategies for how to accomplish the project and the plans and procedures for processes that are common to all delivery teams of the project.

The purpose of attachment 9 is to highlight the specific variations of the subsea team project execution plan. The variations addressed will be as referenced in the Subsea Project Execution Plan following Table of Contents as noted in this document Technip Doc. No: 3478-BPM-RA-0001. Any sub paragraphs that are not highlighted will assume that ANF/DC3 project execution will comply with the overall Atlantis project requirements.

2.0 Health, Safety and Environment

- DC 3 will adhere to the Atlantis Subsea PEP Health, Safety and Environmental plan except that Table 2.2-2 defines DC 3 Major HSE Activities.

Table 2.2-2: DC3 MAJOR HSE / FSA ACTIVITIES

Description	Timing
Operability Review Session 1	Oct 2005
Operability Review Session 2	Feb 2006
Flowline Route Peer Review	Nov 2005
Slope Escarpment Feasibility Study	TBD
Ocean Bottom Seismic Study	TBD
Mardi Gras Pipe Lay Lessons Learned	Jan 2006
Soil Stability Analysis	Feb 2006
Product Introduction from North Flank HAZID	TBD
Execute PHSER	Jul 2006
Dropped Object Workshop	Aug 2006
Final Operability Review	Jan 2007
HAZOP	TBD
Construction / Detailed Engineering PHSER	Oct 2006
Tree Assembly Lessons Learned	Aug 2006
Manifold Fabrication Lessons Learned	Nov 2006
Manifold Installation Lesson Learned	Jul 2007
Tree and IWOCS Installation Lessons Learned	Jul 2007
Jumper Kit Fabrication and Assembly Lessons Learned	Jun 2007
PLET Assembly HAZID	Oct 2006
Flowline Acceptance Testing HAZID	Jan 2007
Jumper Installation Lessons Learned	Jul 2007
Remote Pull In HAZID	Dec 2006
Flowline Load Out HAZID	Nov 2006
Flowline Installation Lay & Pull-in HAZID	Nov 2006
PLET Installation Lesson Learned	Nov 2006
Bayou Coating Risk Lessons Learned	May 2007
Manifold SIT Lessons Learned	May 2007
Umbilical Installation Lessons Learned	Feb 2007
Umbilical Loadout Lessons Learned	Feb 2007
SIMOPS HAZID	Oct 2006

In addition, the Atlantis North Flank development will be executed against the expectations and elements contained within the BP GoM HSSE Management System including but limited to the:

- BP GOM Safe Practices Manual http://docs.bpweb.bp.com/dkgom/custom/dk/dk_view_content.jsp?objectid=0900a88580016557&path=/us_wl_dk_gom_hse:/content/hssems/gom_unified/UPS-US-SW-GOM-HSE-DOC-00404-2
- BP GoM Contract Aircraft Guidelines http://docs.bpweb.bp.com/dkgom/custom/dk/dk_view_content.jsp?objectid=0900a8858000c186&path=/us_wl_dk_gom_hse:/content/hssems/gom_unified/UPS-US-SW-GOM-HSE-DOC-00072-2
- BP GoM Crane Operation & Maintenance Program http://bp1houdm103/us_wl_dk_gom_hse:/website/custom/crane/toc_crane_ope_mgmt_prog.htm?docbase=us_wl_dk_gom_hse&ticket=vlinkpass&username=bp_vlink&rootpaths=%2Fwebsite%2Fcustom%2Fcrane%0A%0D
- BP GoM Operations Guidelines & Recommendations for Offshore Support Vessels http://bp1houdm103/us_wl_dk_gom_hse:/website/custom/offshore_support_vessels/10023_gom_operations_guidelines_and_recommendations_for_of.pdf?docbase=us_wl_dk_gom_hse&ticket=vlinkpass&username=bp_vlink&rootpaths=%2Fwebsite%2Fcustom%2Foffshore_support_vessels%0A%0D
- BP GoM Naturally Occurring Radioactive Material (NORM) http://docs.bpweb.bp.com/dkgom/custom/dk/dk_view_content.jsp?objectid=0900a8858000c1b7&path=/us_wl_dk_gom_hse:/content/hssems/gom_unified/UPS-US-SW-GOM-HSE-DOC-00121-2
- BP GOM MOC Database (Management of Change) http://moc.bpweb.bp.com/
- BP Traction System (Incident Reporting) http://traction.bpweb.bp.com/
- BP IMS (Incident Management System) http://hcc.bpweb.bp.com/
  - Vol.1Incident Management
  - Vol. 2Regional Oil Spill Plan
  - Vol. 3Severe Weather Contingency Plan
  - Vol. 4 Incident Management System – Houston Region Crisis Management Plan
- BP EMS (Environmental Management System) http://bp1houdm103/us_wl_dk_gom_hse:/website/hssems/content/ems_entire_gom.htm?docbase=us_wl_dk_gom_hse&ticket=vlinkpass&username=bp_vlink&rootpaths=%2Fwebsite%2Fhssems%2Fcontent%0A%0D

3.0 Project Management – Administration

The ANF/DC3 project team is an integrated multidiscipline team composed of BP staff and contractors, with BP responsible for overall management of the project. The team is composed of staff from disciplines including subsurface, wells, subsea, operations, project services, HSSER, and commercial.

The individual team managers / leads both to their functional delivery managers and the ANF Project Manager. This matrix organization is adopted due to the parallel project deliveries required by both the Atlantis South main development and this project. Except for a few dedicated ANF staff, most of the work will be performed in the delivery teams by the embedded Atlantis South personnel who will be required to share time between the projects, making careful staff management a key success factor. The matrix organization would ensure the transfer of best practices and standardization in our equipments and procedures. Managing conflicting work requirements and providing clarity on priorities, roles and responsibilities will be controlled at the Business Unit level. The core Atlantis North Flank Project Team organization chart is presented on the DC3 Execute Stage Organizational Chart listed in Attachment 1.

3.1.1 Goals and Objectives

Measures that will demonstrate success in the ANF achieving its goals are:

- Excellent HSE performance: no accidents, no harm to people, no damage to environment
- Development cost of less than 130 million CAPEX target.
- Subsea equipment installation within project schedule for 1st oil by May 08'
- High first year operability

3.2.4 Project Management Documents

The following documents illustrate the management documents that will be used as tools for communicating internally and externally to the ANF/DC3 Project Team:

- **ANF/DC3 Project Schedule**
  The overall Project Schedule organizes when the scope of work and deliverables need to be done and shows the dependencies of one delivery team on another.

- Project **Organization** Plan,
  Refer to sections 3.3 through 3.6 of this document. The Project Organization Plan defines who is accountable for the work and how they relate to one another.

- **Project Organization Chart**

Reference Figure 2.1.1 Organization Chart (Execute Stage) from ANF Single Well Tieback Project, Project Execution Plan (PEP) (Execute Phase) **Document No: 1440-10-PM-RP-0002.** For ANF/DC3 team members refer to Attachment 1 Subsea Execution Project Execution Plan (PEP) Execute Phase of this document. Team members shall complete deliverables through the existing DC 1 Atlantis BP equipment lead personnel. The complete Atlantis Organizational Charts are also found in Attachment 1 of this document.

4.2.3 Schedule Update

The major events and key milestones for the ANF/DC3 project are given in the following Table 4.2-3

Table 4.2–3: KEY SUBSEA SYSTEMS MILESTONES for ANF/DC3 Phase

Milestone or Event	Date
Complete Concept Development (Select Phase)	Sept 2005
Complete FEED (Define Phase)	Nov 2005
Start Execute Phase	Oct 2006
Start Subsea Equipment Fabrication (Non-Standard Equipment)	Aug 2006
Start SIT Testing	Dec 2006
Install Subsea Equipment	Feb 2007
Install Flowlines & Risers	July 2007
Install Umbilicals	Mar 2007
Commission Subsea System	Sep 2007
Deterministic First Oil	1Q 2008
Sanction First Oil	3Q, 2007

4.3 Estimating

The objective of the cost management plan is to provide the framework for the development, maintenance and reporting of project cost information. Existing Atlantis South procedures will be used for the definition, control, and forecasting the financial position of the ANF Project. Atlantis' facilities cost information including budgets, commitments, invoiced amounts, accrued Work-In-Place (WIP), and forecast total-installed-cost (TIC) are controlled using Kildrummy's Cost Manager Software. This work is performed by the cost engineer(s) under the day-to-day direction of he delivery team project service leads. The cross-team consistency of the data is overseen by the Atlantis cost functional lead.

The baseline for cost reporting will be the Execute Stage estimate prepared for sanction by the Subsea team based on the best available data and including provisions for likely market pressures. The estimate was put through a externally facilitated BRISK analysis in April 2006 to determine an appropriate level of Unallocated provision (UAP).

6.9.3 Roles and Responsibilities

The Subsea Team (SST), acting as the Subsea equipment general contractor, will provide the technical leadership and resources necessary to complete the work outlined in the SoR and individual equipment Functional Design Specifications (FDS). Within the SST, specific

BP Lead Engineers will be assigned for each major discipline area. These Lead Engineers will be supported as required by Technip and FMC technical teams.

The prime contractors are responsible for the work identified by the scope of work of their respective contracts as it relates to the project. They are also responsible for subcontracts pertaining to the project where major interfaces or direct connections exist between their equipment and the specific subcontract. Prime contractors are chosen on the basis of their technical and project management skills and their commitment to providing long-term service to the Atlantis project. They are accountable for the overall engineering, construction and testing of the various components defined by their contracted scopes of work.

7.0 Interfaces

As the strategic link to the PQ Floating Systems (topsides and hull teams), the SST will provide the necessary interface information for all critical items. The BP Lead Engineers responsible for contracted work scope serve as the focal point for all aspects of the work being performed.

8.0 Procurement and Procurement Plan

Equipment and services for the Atlantis North Flank Single well tie-back project will be procured using sound business practices, from sources that provide maximum value as defined by quality, price, delivery, reliability, existing alliances and applicable laws and regulations. All procurement activities will adhere to BP Ethical Standards and comply with BP Group Procurement Policy and systems of internal control.

- HSE requirements will be worked in advance of all commitments to 3rd party suppliers and contractors.
- Standardization and utilization of existing BP agreements will be adhered to where applicable.

Equipment or services in excess of $1mm will have a written strategy to ensure compliance with policy. Competitive tendering will be the norm for all procurement activities. When not applicable or existing market conditions dictate, authority to Negotiate and Sole Source justifications will be documented and approved prior to any commitments to 3rd party suppliers or contractors. Specific subsea equipment to be procured are listed in section 4.2.1 of the ANF/DC3 PEP

9.0 Construction Plan

It is the intent of the project team to conduct subsea fabrication and installation in compliance with selected BP design specifications, follow all technical assurance processes

throughout the design and installation phases, and ensure the long term safety and operability of the Atlantis North Flank single well tie-back wells. Activities will include:

- Develop project specifications, philosophies, and design guidelines where they vary from the already existing Atlantis documents;
- Ensure that BP Technical Assurance Process is followed, including MOC process;
- Conduct Health, Safety, Security, Environment and Regulatory Reviews;
- Ensure GoM Safe Work Practices are followed throughout construction and installation phases of the project;
- Develop subsea installation, commissioning, and handover procedures;
- Develop and adhere to quality control/assurance plan;

Submit necessary documentation for regulatory approvals as it pertains to Atlantis North Flank single well tie-back.

9.3 Contracting Plan

At this time, it is envisioned that the Atlantis rig, Development Driller II (DDII) will install all equipments (tree, jumpers, controls, manifold, flowbase) in a similar manner to the DC1 installation if the rig schedule permits or if SIMOPS can be achieved. Subsea tree installation will definitely be managed by the Drilling and Completion team and run from the drilling rig. For the installation of other subsea equipments, vessel availability, costs and installation synergy will be considered in the decisions. For example, the subsea jumpers are small enough to be installed using light subsea construction vessel, however, these jumpers could be installed from the DDII while working in the SIMOPS mode as per DC1 installation strategy.

ATTACHMENT 10

BP Atlantis Project Final Vendor Data Book Letter

BP ATLANTIS
CONFIDENTIAL WORK PRODUCT

BP America Production Company
501 WestLake Park Boulevard
Houston, Texas 77079

type date

type vendor name
type address
type city, state, Zip

Attention:type name, if applicable; if not, delete this line

RE: BP Atlantis Project Final Vendor Data Books

Dear Vendor:

The Atlantis Subsea team is starting to receive Vendor Data Books. BP Operations (final BP client) has requested the following:

Book Marking - All books sent to the project should be Book Marked by installing tabs/dividers according to relevant information. The tabs should have titles marked on them to allow for quick reference for the operations team.

Electronic Files – The entire Data Book should be submitted in electronic format in addition to hardcopies. The electronic files shall not exceed 2 MegaBytes of data per file. It has been brought to our attention that computer servers which handle vendor documentation cannot handle voluminous manuals which are not provided in separate file format. Also, it is preferred that tabbed sections remain whole, and not be separated between electronic files.

Documents – We understand that our vendors have their own documentation processes, but BP requires that a BP document number be used upon transfer to us; furthermore, this number should be clearly visible on the first page of each (ALL) issued document(s). If you need assistance with your BP document number, please contact Willie mae Bowens at wbowens@technip.com.

Final Data Book - It is required that individually issued documents that pertain to Final Data Books for Operation, Reference, or Maintenance, be provided to us within one large Final Data Book. It may, however, be issued as separate volumes of the same Final Book (i.e., Vol. I – Technical, Vol. II – Maintenance, Vol. III – Operating Procedures). A Table of Contents that references Tabs and Book Volumes should follow the title page in the Final Book.

Document Release – We require as a minimum, and as per Work Package Releases or Purchase Orders, that two (2) hardcopies and one (1) electronic copy be submitted to our Document Control group when you release Final Data Books to us.

Please contact Jeff Misher at jmisher@technip.com for inquiry or clarification.

Thank you for your cooperation,

Rochelle Savel
Supply Chain Management – Deep Water, Deep Gas Business Unit
Atlantis Subsea Project Team
Rochelle.Savel@bp.com
BP AMERICA PRODUCTION COMPANY

ATTACHMENT 11

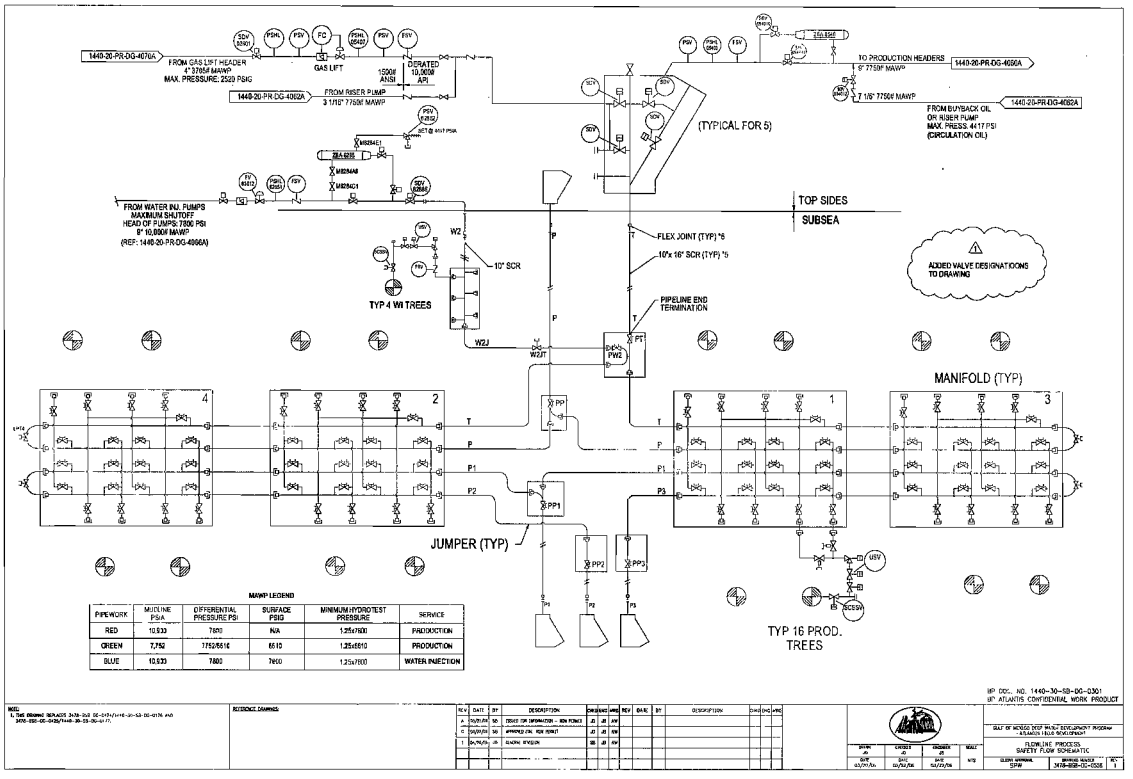
Split Installation Campaign

1.0 The purpose of attachment 11 is to the document the activities involved in the execution of the Atlantis split campaign operations to ensure adherence and conformance to the strategy as defined in the overall Atlantis project execution plan (PEP). The split campaign philosophy shall be documented in the PEP to provide direction for the development of specific tasks, process requirements and approvals and buy-ins from the various Atlantis project teams. This prime objective is to ensure that a well coordinated plan among the major project teams, including the Floating Systems, Wells and Operations Team's for a successful execution of the spilt campaign.

2.0 Terms of Reference

The Task Update Summary document provides direction and identifies major activities required for the proper execution of the split campaign operations. This document shall be updated as decisions and changes are made pertaining to the execution plan. Fig 11-1 shows the schematic for the split campaign start up. See Attachment 11-1 for the detailed Terms of Reference

Fig 11-1
Split Campaign Proposed Start up



BP ATLANTIS CONFIDENTIAL WORK PRODUCT

Terms of Reference – Revision 5
Split Flowline / Riser Installation Campaign

Objectives: Investigate feasibility of an Atlantis start-up after Balder completion of a Phase I (out of II) flowline riser installation. Phase I scope includes lay and tie-in the W2, T and P flowlines and risers. The Balder is assumed to be demobed prior to beginning of the Phase II scope, and is assumed to begin some time period after start-up when it is remobbed. The umbilical scope during Phase I is considered to be H2, E2, H4, H6, and E4, installed by Subsea 7.

Phase II scope includes installation of the P1, P2 and P3 flowlines and risers by the Balder, and follow-on installation of the H3, H5, and H7 umbilicals by another 3rd party vendor (e.g. Subsea 7 or other).

Identify any incremental activities / tasks that will require completion, in addition to the deliverables for the base case start-up plan (i.e. all 6 flowlines / risers installed). Develop concept split start-up plan to extent that sufficient project data / activities are available to declare a new Atlantis Base Case schedule (subject to MOC).

Tasks / Resources

Split Start-up Plan – SELECT PHASE:

Task	Critical	Description	Task Leaders
1.		Review and approve Phase I TOR w ALT. Expected SELECT Gate deliverables (in Decision Support Package): • Split Start-up Plan / options (w schedule and production profile) • Extended Project Staffing requirements • Major risks and mitigating actions • Major tasks and enablers • Decision milestones • Economics comparison to base case	ALT
2.		Define high level installation plan Deliverables: Phase I and Phase II installation sequences	Simon Webb / Ryan Malone
3.		Perform Regulatory Gap Assessment Deliverables: Permits / amendments required and concept plan to deliver for start-up scenario. Impacts on requirement for	Dennis Sustala

Task	Critical	Description	Task Leaders
		permanent COI.	
4.		Define subsea and topside isolation plan – plan necessary to isolate system from equipment gap created by missing P1, P2 and P3 flowline / risers and any umbilicals. Deliverables: any incremental long leads items and work scopes necessary for isolation	John Mack / Ken DeJohn
5.		Perform Phase I commissioning activity gap assessment (compared to Base Case Atlantis commissioning plans/procedures) and determine conceptual activities required for commissioning of Phase II installation. Deliverables: revisions or additional procedures necessary for Phase I Early Start-up commissioning, and conceptual Phase II commissioning plan. Identify any new additional long lead items.	John Mack / Mike Mills
6.		Perform Topsides / Marine Systems readiness assessment Deliverables: Schedule drivers for early start-up	Mike Mills
7.		Perform Phase I Early Start-up plan, start-up activity / operations, gap assessment (compared to Base Case Atlantis start-up plans/ ops procedures). Deliverables: revisions or additional procedures necessary for Phase I Early Start-up. Identify issues with proposed well startup order.	Jim Ray / Jerry Sharp
8.		Conduct SIMOPS gap assessment and identify any early results based on installation sequence and existing SIMOPS plan (non-concurrent activities). Deliverables: SIMOPS gaps, and list of concurrent activities that are not allowed.	Allistair Warwich / Mike Mills / Geir Karlson

Task	Critical	Description	Task Leaders
		Proposed areas of restudy / new study.	
9.		Perform Preliminary Hazard Assessment by reviewing existing hazop entries and conducting high level hazid of split startup activities. Inputs should include past experience from DWP installations. Deliverables: Hazop items that are in jeopardy of close-out as a result of the Phase I start-up plan and proposed mitigating action. New hazards and mitigating actions / processes necessary as a result of the Hazid.	Allistair Warwich
10.		Integrate subsea installation plan with topside delivery plan (including current scope), and Marti Gras flowbacks. Deliverables: System start-up flowchart	Mike Mills / John Mack
11.		Identify equipment turndown and/or operating constraints. Deliverables: Any incremental topsides turndown issues and operating limitations (e.g. max production rates through riser).	Jim Ray
12.		Perform gap assessment of marine and riser worthiness of PQ during production ops with only 3 risers installed, in 100 yr hurricane. Coordinate with Marti Gras on new neutral position and planned offsets. Deliverables: Confirmation that riser / mooring arrangement is within current design expectation, and any engineering studies that may be required if no firm conclusions are available.	Pat Kelly / Simon Webb / Mike Vandenbos sche
13.		Perform Preliminary Documentation Gap Assessment Deliverables: List of project documentation that may be impacted as a result of this change that is necessary to be available prior to Operations for start-up.	Mike Mills

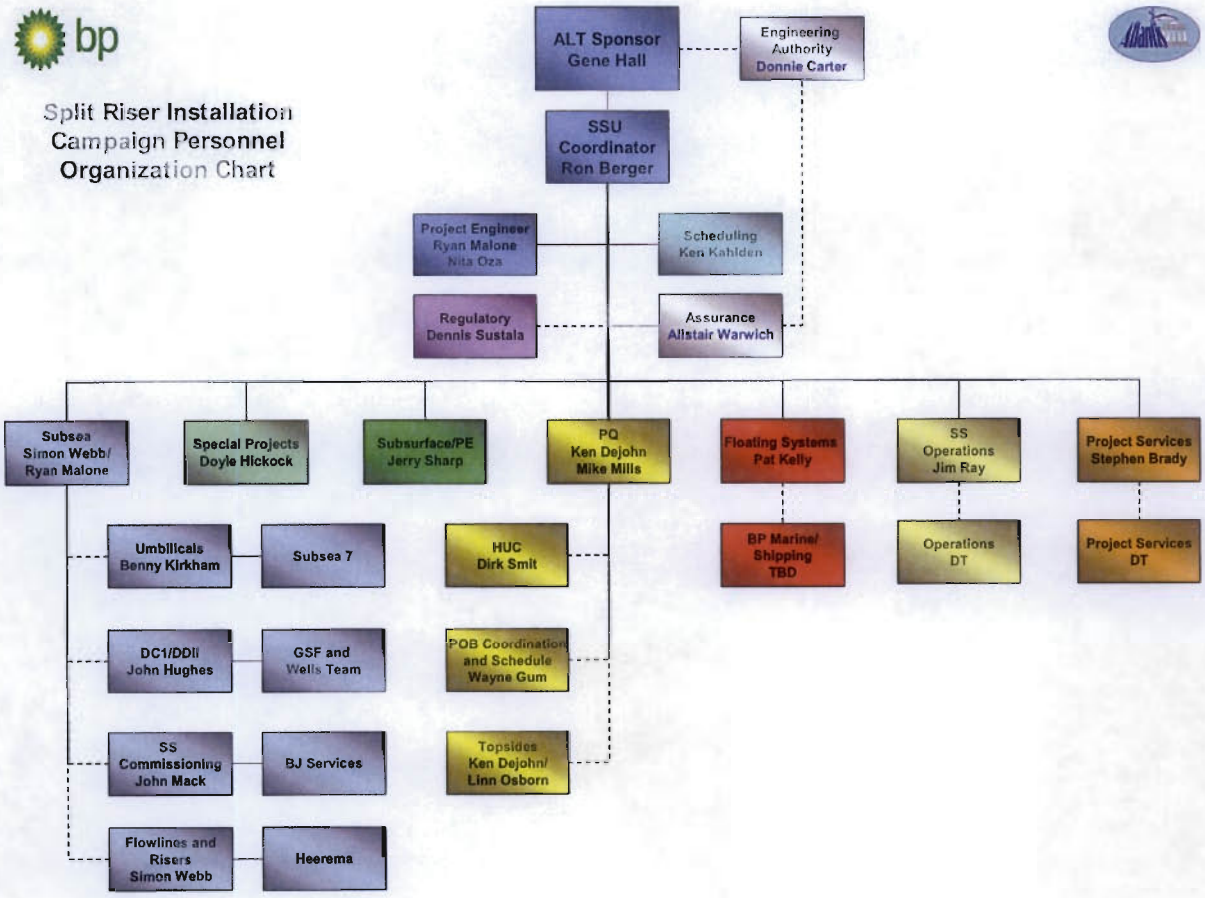
Task	Critical	Description	Task Leaders
14.		Develop Select Phase Early Start-up Schedule (high level) Deliverables: Develop schedule and production profile based on findings above which objective to show earliest possible start-up date.	Scheduler / R Berger
15.		Review staffing requirements Deliverables: Staffing that may be necessary for extended project including offshore on the PQ during HU. Identify additional temporary quarters that may be required.	Ryan Malone / Mike Mills
16.		Identify P1 installation impact Deliverables: Summary of any issues that the addition of the P1 installation or East / West rearrangement of the Phase I scope may create.	Conclusions drawn from results of other tasks
17.		Perform Economic Evaluation(s) Deliverables: Incremental compared to base case.	Dan Elmer
18.		SELECT Gate Review	ALT

Early Start-up Plan – DEFINE PHASE:

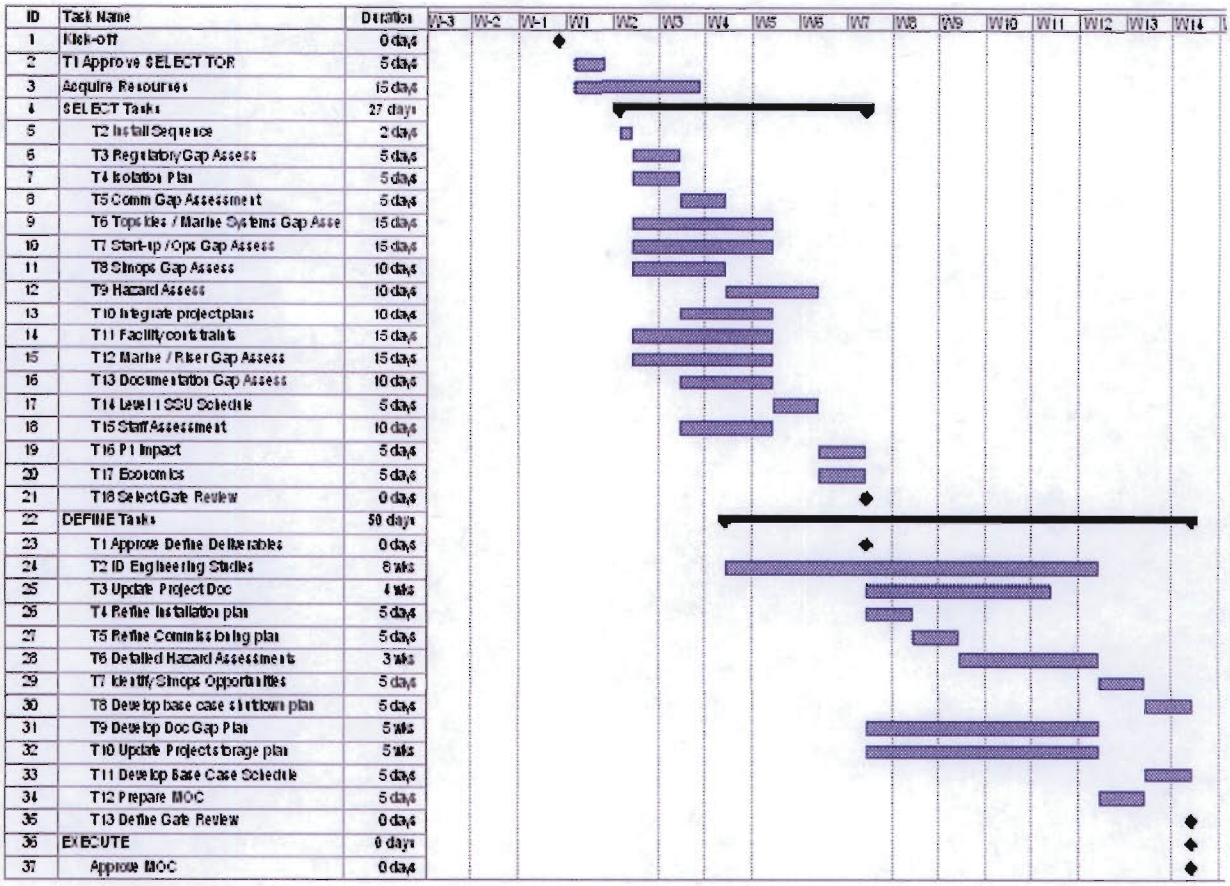
Task	Description	Resources
1.	Review and approve DEFINE Gate deliverables: • Updated Project Documentation (SOR, DBD, PEP) • Base Case Schedule • Assurance Steps required during Execute • Decision registers • Closure of major risks from Select • Preparation of MOC	ALT
2.	Perform engineering studies required out of SELECT. Run dynamic simulator with new production profiles.	Others
3.	Update SoR, DBD, PEP, Decision Registers, SIMOPS plan	SSU Coordinator / Project Controls, DDII and Ops Simops Lead
4.	Refine flowline and umbilical installation plan	FL Lead / Umb Lead
5.	Refine commissioning and tie-in plan	SS Comm / PQ Hook-up Lead / Topsides Lead / Operations Lead
6.	Perform additional detailed hazard assessments and mitigating actions as a result of the early startup and Phase II installation sequences. Additional Deliverables: Closure of Select Hazid entries, additional execute phase assurance steps	HSE Lead, Operations Lead
7.	Identify opportunities for simultaneous work (e.g. concurrent DDII ops, PQ hot-work, and Balder hand-off). Additional Deliverables: Simultaneous work opportunities and work plan	Prod Eng Lead / Ops Lead
8.	Refine base case shut-down plans and ramp-down, shutdown, and startup plans.	Ops Lead / PE / HSE Lead
9.	Develop Documentation Gap Mitigation Plan, System Handover to Operations plan	Topsides Lead / SS Eng Lead / Doc Manager / Ops Lead
10.	Review project equipment storage and maintenance plan for extended project and develop Execute plan to ensure	SS Lead / HU Lead

Task	Description	Resources
	proper equipment condition when required for use.	
11.	Develop Project Base Case Schedule and integrated onshore and offshore staffing plan.	Project Controls Lead
12.	Prepare MOC	Project Engineer
13.	DEFINE GATE Review	ALT

Organization



Schedule



ID	Task Name	Duration
1	Kick-off	0 days
2	T1 Approve SELECT TOR	5 days
3	Acquire Resources	15 days
4	SELECT Tasks	27 days
5	T2 Install Sequence	2 days
6	T3 Regulatory Gap Assess	5 days
7	T4 Isolation Plan	5 days
8	T5 Comm Gap Assessment	5 days
9	T6 Topsides / Marine Systems Gap Asse	15 days
10	T7 Start-up / Ops Gap Assess	15 days
11	T8 Shmops Gap Assess	10 days
12	T9 Hazard Assess	10 days
13	T10 Integrate project plans	10 days
14	T11 Facility constraints	15 days
15	T12 Marine / Riser Gap Assess	15 days
16	T13 Documentation Gap Assess	10 days
17	T14 Level I SSU Schedule	5 days
18	T15 Staff Assessment	10 days
19	T16 P1 Impact	5 days
20	T17 Economics	5 days
21	T18 SelectGate Review	0 days
22	DEFINE Tasks	50 days
23	T1 Approve Define Deliverables	0 days
24	T2 ID Engineering Studies	8 wks
25	T3 Update Project Doc	4 wks
26	T4 Refine Installation plan	5 days
27	T5 Refine Commissioning plan	5 days
28	T6 Detailed Hazard Assessments	3 wks
29	T7 Identify Shmops Opportunities	5 days
30	T8 Develop base case shutdown plan	5 days
31	T9 Develop Doc Gap Plan	5 wks
32	T10 Update Project storage plan	5 wks
33	T11 Develop Base Case Schedule	5 days
34	T12 Prepare MOC	5 days
35	T13 Define Gate Review	0 days
36	EXECUTE	0 days
37	Approve MOC	0 days

ATTACHMENT 12

Prelay

1.0 The aim of the prelay options is to capitalize on vessel opportunities in lieu of delivery of the PQ on site. Prelay shall be carried out in accordance with normal laying operations and requirements.

The following Drawings Nos: shows the options for the prelay operations:

1440-34-PL-DG-0201-001 Flowline T Prelay (Option A)

1440-34-PL-DG-0201-002 Flowline T Prelay (Option B)

1440-34-PL-DG-0201-003 Flowline P Prelay (Option A)

1440-34-PL-DG-0201-004 Flowline P Prelay (Option B)

1440-34-PL-DG-0201-005 Flowline P1 Prelay

1440-34-PL-DG-0201-006 Flowline P2 Prelay

1440-34-PL-DG-0201-006 Flowline P3 Prelay

2.0 Water Injection Prelay

The water injection line has been prelaid and awaiting to be hooked up to the PQ on site.

3.0 Other Prelay

The options for prelaying the other lines have been laid out and referenced above. The options can be exercise based on what is expedient at the current moment. Prelay should not be any extra ordinary from the normal operations. The options, if exercised, will be decided by the Atlantis Leadership Team.

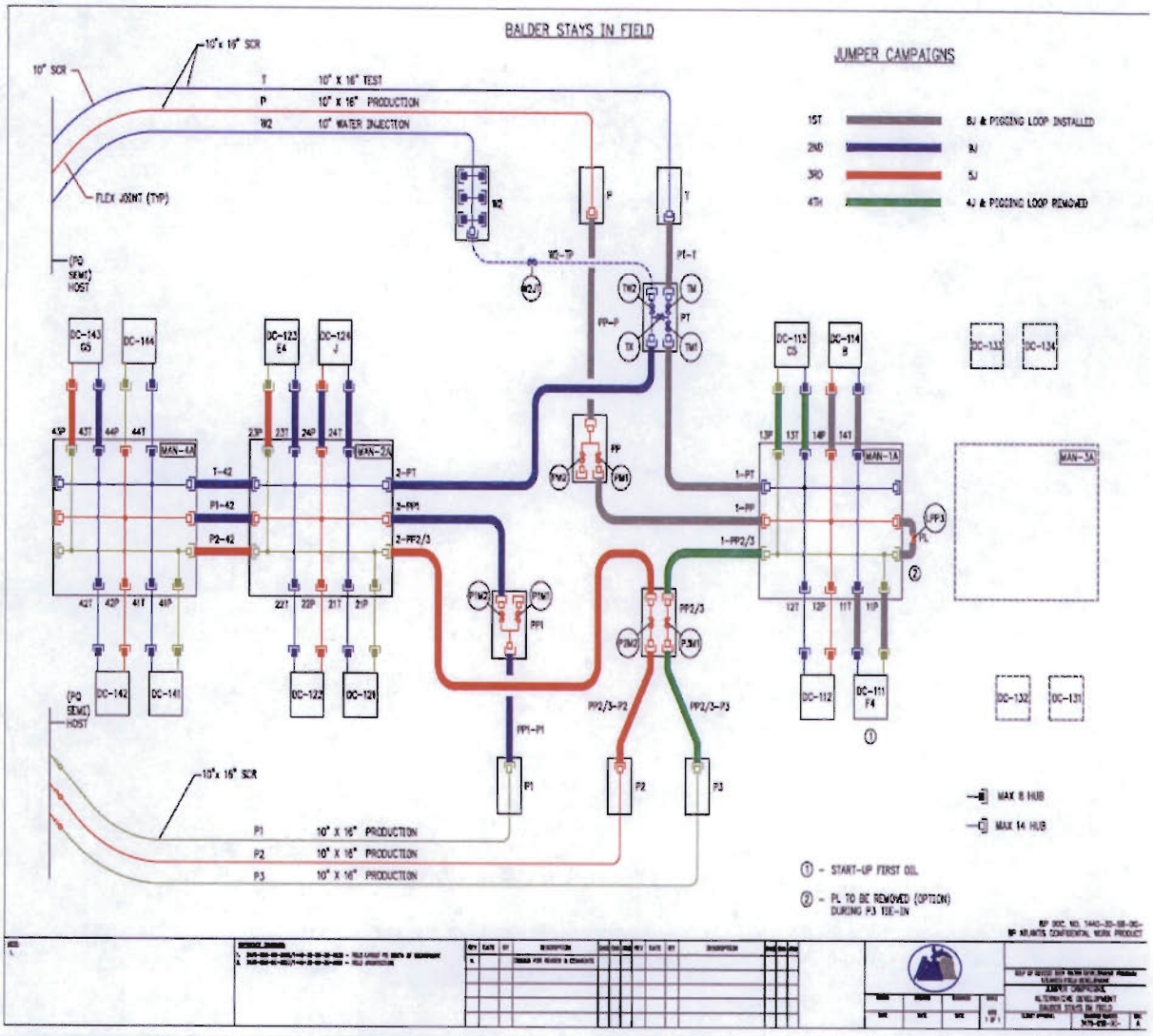
ATTACHMENT 13

Subsea Systems Phase 1 (SS1)

BP ATLANTIS
CONFIDENTIAL WORK PRODUCT

1.0 The purpose of attachment 13 is to the document the activities involved in the execution of the Atlantis SS1 to ensure adherence and conformance to the strategies as defined in the overall Atlantis project execution plan (PEP). The SS1 philosophy shall be documented in the PEP to provide direction for the development of specific tasks, process requirements and approvals and buy-ins from the various Atlantis project teams. This prime objective is to ensure that a well coordinated plan among the major project teams and sub-contractors, including the Floating Systems, Wells and Operations Team's for a successful execution of the SS1 campaign. Fig 13-1 shows the schematic for the SS1 subsea architecture.

Fig 13-1
Schematic of Fully Integrated SS1



BP ATLANTIS
CONFIDENTIAL WORK PRODUCT

2.0 Scope of SS1

The scope associated with implementation of SS1 includes elimination of all 8630/625 buttered welds in the subsea architecture with exception of the water injection line. The existing PLET structures shall be used for the fabrication of 5 new simple valve-less PLETs to meet prelay and mainlay schedules. In addition, 4 new PLEMs with various 9" gate valve configurations shall be built to meet start up and enhance operability. Eventually, 4 permanent manifolds shall be built at DC 1 and installed in phases. The new design for the SS1 manifolds will utilize the existing manifolds frame and sub-components.

An MOC shall be issued for implementation of the SS1 and shall be managed according to the execution plans within the overall Atlantis PEP.

3.0 Health Safety Environment (HSE)

HSE requirements for the SS1 shall conform to the overall PEP. No exceptions for HSE requirements have been identified for work carried out in association with SS1 plans.

4.0 Design Considerations

Design of the SS1 manifolds shall take into consideration the base case DC1 configuration in relation to the subsea architecture spatial layout to leverage the design of current jumper configurations. External coating and HWHR as well as CP systems shall be compatible to DC 1 design.

Materials required for SS1 shall be re-allocated from Atlantis North Flank (DC 3), if required, and components from the retrieved manifolds that include the hubs, valves, connectors. These shall be used to fabricate the new alternative manifold in the SS1 design.

The SS1 design is aimed at meeting 1st oil schedule and optimized to assure maximum offshore service life through integrity management of the SS1 components, especially in the area of minimizing corrosion during production. The current targeted minimum offshore service design life required for the SS1 components is 36 months.

The SS1 manifolds, new designed PLEMs and PLETs design features shall be documented in a supplemental section in the Atlantis Subsea Design Basis Document Execute Phase. BP Doc # 1440 – 30 – SB – DC- 0033. (Technip Doc # 3478 – BSB – RA – 0001). In addition, design and Peer reviews shall be conducted to address issues that might arise in implementing the SS1.

5.0 Contractors

The contractors for SS1 execution phase pertaining to the supply of the SS1 subsea components are listed in the table below. Installation, commissioning and hook up plans have not deviated from the original Atlantis PEP found in Section 9.0

Table 5.1-1 Contractors Responsibilities for Supply of SS1 equipment

Contractor / Subcontractor	Workscope Description
Technip Offshore, Inc. The major technical support to BP has been provided by Technip under the terms of a Frame Agreement (Well System Integration and Design Engineering Services Contract, No. BPA-00-01772) established in January, 2001. The scope of work specified in that contract includes:	As defined in Table 3.3-1 of this PEP Detailed design and engineering for the SS1 manifolds, PLEMs and PLETs
FMC Corporation	Remediate the 9" valves and connectors Engineering support to OSI (SVI) and RTI,
Omega Engineering	Fabricate the PLEMs and the PLETs
RTI	Re-fabrication of hub, hub supports and manifolds. Re-machine the hubs
Allison Marine	Remediate and fabricate jumpers Base for load out and staging area
OSI (SVI)	Re-engineer and fabricate the SS1 manifolds

6.0 Construction

Construction plans for the SS1 shall conform to the current statements found in Section 9 of this PEP. Any exceptions to the construction plan shall be reviewed and authorized by the SS1 execution team, in collaboration with the Atlantis teams. The SS1 execution team will continue with scrutinizing interface issues and fully understand the design implications and impacts with a view to lock in the SS1 design for the path forward.

7.0 Testing

SS1 components testing requirements shall be defined in the respective functional specifications. The minimum requirements are shell test for the Manifolds, PLEMs and PLETs to the stipulated test pressure of 9,750 psi. In addition, CP continuity test, HWHR system test and an external pressure test for the pressure caps will be conducted.

Exhibit “D” to Declaration of David L. Perry (Part 2 of 2)

C

E-mail 19 of 61

Unknown

From: Kenneth Abbott [kwabbott@comcast.net]

Sent: Thursday, February 05, 2009 2:29 PM

To: 'Pasha.eatedali@ombudsmanecp.com'

Subject: FW: Requested Documents - Abbott

Attachments: Kenneth Abbott.pdf; Swift Vacancy-Details.txt; RIGZONE - Project Services Lead - Houston, TX.txt; swiftpsl job listing.doc; RIGZONE - Project Services Lead - Houston, TX.mht

Pashda – attached are the items you requested...

This agreement is entered into and made effective the 18th day of Augusth 2008 by and between:

Swift Technical Services LLC, a corporation organized and existing under the laws of the United States with its registered offices at 3050 Post Oak Blvd., Suite 1450, Houston, Texas 77056 (hereinafter referred to as "COMPANY") of the one part and;

Kenneth Abbott (hereinafter referred to as "CONTRACTOR") of the other part;

EXHIBIT A – SPECIFIC CONDITIONS

Project:	**Atlantis Project**
Services:	**Subsea Project Services Leader**
Commencement Date:	**18 August 2008**
Completion Date:	**18 August 2010 (subject to extension)**
Working Hours:	**9/80 Schedule (or in accordance with operational requirements)**
Base Location:	**Houston, Texas - United States**
Rate:	**US $900.00 per day worked**
Medical, dental, vision, life insurance, AD&D Insurance and long term disability:	**Provided by Company for Contractor. Family members may be covered at Contractor's own cost.**
401K:	**Provided by Company for Contractor – Company provides a full (100%) match of contributions made by Contractor, up to 5% of Contractor's gross pay.**

In Witness Whereof, the parties have duly executed this Agreement in duplicate originals.

For and on behalf of **Swift Technical Services LLC**

Karlny Ritter
Contracts Administrator

Date: July 23, 2008

I hereby accept this Agreement on the terms and conditions set out above
Kenneth Abbott

Date: 7/23/08

EXHIBIT B – GENERAL TERMS AND CONDITIONS

1.0 Interpretation

1.2 Reference to any statute, statutory provision or statutory instrument includes a reference to that statute, statutory provision or statutory instrument as from time to time amended, extended or re-enacted.

1.3 Reference to the singular includes a reference to the plural and vice versa and reference to one gender includes a reference to the other gender.

1.4 Headings are used for convenience only and will not affect the construction or validity of this Contract.

2.0 Definitions

2.1 "Affiliate or Affiliates" of a company shall mean a current or future Person directly or indirectly controlling, controlled by, or under common control with such company. "Control" for this purpose shall, in the case of a corporation with outstanding voting stock, require the direct or indirect ownership of or power to vote with respect to outstanding shares of a corporation's capital stock constituting fifty percent (50%) or more of the votes of any class of such corporation's outstanding voting stock, and with respect to any Person other than a corporation, the possession, directly or indirectly, of the power to direct or cause the direction of such person's management or policies.

2.2 "Approved" shall mean approved in writing (including subsequent written confirmation of previous verbal approval) and "Approval" means approval in writing (including subsequent written confirmation of previous verbal approval).

2.3 "Work" shall mean the consulting services to be performed pursuant to this Contract.

2.4 "Work Site(s)" shall mean the location or locations on, under, in, or through which the Work is to be performed by Contractor.

2.5 "Client" shall refer to BP America Production Company.

2.6 "Company" shall mean Swift Technical Services LLC.

2.7 "Contractor" shall mean Kenneth Abbott.

3.0 Performance

Contractor shall perform the Work in a diligent, skillful, safe and workmanlike manner, and in accordance with the highest level of accepted standards within the industry to prompt completion subject to all of the terms and conditions of this Contract and to the satisfaction of Company and Company's representative.

4.0 Contractor to Inform Itself

Contractor is deemed to have accepted the terms and conditions of this agreement upon commencement of the services.

5.0 Insurance

5.1 The Contractor shall not cause or permit the use of any motor vehicle for any business purposes in connection with the Works unless adequate third party insurance cover is in force in respect of such user. The Contractor will at all times keep the Client/Company indemnified against any liability (whether in respect of any insured risk or otherwise) incurred by the Client/Company or arising otherwise in connection with the use of any motor vehicle for any such purpose.

5.2 Contractor shall endeavour to notify Company in the event they are required to work offshore, in order to ensure full insurance compliance

4.0 Payment

4.1 Contractor shall complete timesheets and expense claim forms (where applicable) and submit to Client Representative for approval.

We advise that all timesheets and expenses are due in accordance with the attached payroll schedule.

Expense claim forms must be supported by original receipts.

4.2 Should Client dispute any invoice from Company relating to Contractor's payment which results in Client deducting monies from Company, Company shall deduct the equivalent from Contractor's next payment.

4.3 No payment shall be made by Company to Contractor when absent from work for any reason whatsoever. Only time actually worked by Contractor on the authorised business of client shall be reimbursable.

5.0 Taxation

Unless otherwise stated under Exhibit A, Company may at all times during the continuance of the Services make all such deductions of or on account of income tax, social taxes and such other taxes, contributions, levies or imposts as may from time to time be deductible by or due from the Contract in respect of or in connection with the monies paid by the Company to Contractor.

6.0 Termination

6.1 Company may, at any time, with or without cause, terminate this contract, by giving five (5) Days' written notice to Contractor specifying the date of termination (hereafter referred to as the "Termination Date").

6.2 Regardless of the basis for termination, on the Termination Date, Contractor shall discontinue the Work and comply with the applicable provisions of this Article and any other applicable provisions of the Contract. Contractor shall preserve all work in progress and shall turn over the Work to Client in accordance with Client's instructions.

6.3 Upon termination as provided for in this Article, title to and possession of all permits, licenses, drawings, data, specifications, or other items acquired for Client will immediately thereon pass to and vest in Client.

6.4 Contractor shall not without the prior consent of the Company, for a period of twelve (12) months after the termination of their employment directly or indirectly and whether on their own behalf or on behalf of any other business concern, person, partnership, firm, company or other body, be engaged, concerned or interested in any capacity, in the Client or in any other business which is wholly or partly connected to the project where assigned by the Company under this agreement.

7.0 Medical Policy

7.1 Contractor warrants that they are medically fit to perform the Services.

7.2 Contractor shall complete and sign the attached medical form and return to Company. Failure to do so may constitute as a material breach of this contract and as a result Company may remove Contractor from the area of operations.

7.3 It is the Contractor's responsibility to notify Company should they be required to travel on business outside the USA, in order for the Company to cover them under their emergency medical policy.

7.4 Contractor must ensure that they are medically fit to work on overseas assignments and provide Company with a medical certificate of fitness, prior to undertaking a business trip.

7.5 All costs associated in obtaining the appropriate medical examination must be borne by Contractor.

8.0 Independent Contractor

In the performance of the Work, Contractor is an independent contractor, shall control the performance of the details of the Work, and shall be responsible for the results as well as responsible for ensuring that the performance of the Work is conducted in a manner consistent with appropriate safety, health, and environmental considerations, including, but not limited to, Client's policies thereon. The Work may be supplemented by instructions from Client's representative(s), and Client reserves the rights of observation and inspection to secure satisfactory completion of Work.

9.0 Confidentiality

9.1 Contractor agrees that Client Background Information (as defined in Section 14.1), Developed Information (as defined in Section 14.2), and any other technical or business information (hereinafter "Client Confidential Information") that is disclosed to Contractor in connection with any Work hereunder by Client, either orally or in writing, is to be treated as confidential and proprietary. Contractor agrees that Client Confidential Information will be maintained in strict confidence and not used or disclosed to Third Parties other than in performing Work for Client. The requirement to maintain information in strict confidence, however, shall not apply to Client Confidential Information that: (i) is or becomes generally available to the public through no wrongful act of Contractor; (ii) was in the possession of Contractor prior to the time it was acquired hereunder and was not acquired, directly or indirectly, from Client or its Affiliates or from others under an obligation of confidentiality; (iii) is independently made available as a matter of right to Contractor by a Third Party without obligations of confidentiality, provided that such Third Party did not acquire such information directly or indirectly from Client or its Affiliates; or (iv) is required by law to be divulged, provided that Contractor must notify Client prior to any disclosure, and must assist Client in minimizing the extent of disclosure.

9.2 Contractor acknowledges and agrees that Client, in its sole discretion, may deliver and/or store Client Confidential Information in digital form on the Internet, extranets and/or through public networks and service providers. Such digital information will be stored on internal or external computers and accessed from public telecommunications networks, and will be accessible by a controlled group of Persons (the "Controlled Group"). Contractor agrees that the delivery and storage of such Client Confidential Information in this manner must not be deemed as making the information generally available to the public, even if such Client Confidential Information is accessed by Persons who are not within the Controlled Group.

9.3 Contractor must not disclose Client Confidential Information to any Third Party or use it or any part thereof except in the performance of the Work. Contractor must not make nor permit the making of any copies, abstracts, derivatives, or summaries of any Client Confidential Information, except in the performance of the Work. Upon completion of Work for Client, or at Client's request, Contractor must return all Client Confidential Information (including, but not limited to, all copies, abstracts, derivatives, and summaries).

9.4 No press release or other public announcement or public disclosure having or containing any reference, either directly or by implication, to this Contract or the transactions herein contemplated, or to Client or any other Persons of Client Group, will be made or used by Contractor or on its behalf, unless the same has been Approved by an authorized officer of Client. This prohibition specifically includes, but is not limited to, any public release (either through print or broadcast news media), any articles prepared for internal or external publication, technical papers, and discussions with journalists or other Third Parties.

10.0 Force Majeure

Except as may be specifically otherwise provided in this Contract, neither Party shall be liable for delays in performance or for non-performance directly occasioned or caused by Force Majeure. Should conditions in the location where the Work is performed, in the reasonable opinion of Company, become such that continuance of the Work would be unduly hazardous, Company may suspend the Work and such suspension will be considered Force Majeure. Inability of either Party to secure funds will not be regarded as Force Majeure. Upon the occurrence of Force Majeure, the Party affected shall give immediate notice thereof to the other Party and shall, at its cost and expense, do all things reasonably possible to remove or mitigate its effects

11.0 Suspension

11.1 Company shall have the right to suspend all or any part of the Work at any time and at its sole discretion by giving written notice of suspension to Contractor.

11.2 Upon termination of any such suspension, Contractor shall immediately re-commence the Work under the terms and conditions of this Contract with the same labor and resources as were previously employed on the Work.

12.0 Compliance with Laws

12.1 Company warrants that Contractors are familiar with and knowledgeable about all relevant laws, rules regulations, decrees, federal, state and local, which are now or may become applicable to the Contract and any Work performed in connection herewith, including without limitation, those pertaining to immigration, health, safety, security, and environmental protection (hereinafter sometimes referred to as the "Laws") and Contractor warrants that in conducting the Work hereunder it will comply with all such Laws.

12.2 Contractor shall not pay any fee, commission, rebate, or other value to or for the benefit of any governmental official having jurisdiction over the Work Site, if such payment would be inconsistent with or penalized by the laws and regulations of the United States.

12.3 Contractor agrees to Indemnify Company Group from and against any Claims/Losses resulting from Contractor's failure to comply with all applicable Laws.

12.4 If any portion of the Work will occur on the Outer Continental Shelf, then Company shall supply individuals who are authorized under the laws of the United States to perform the Work. Any individual who lacks such authorization will not be allowed to take part in the portion of the Work that occurs on the Outer Continental Shelf.

13.0 Intellectual Property and Indemnification

13.1 Background Information. "Information" means any information embodied in any tangible form including, but not limited to, a work of authorship, a process diagram, a drawing, a blueprint, a model, a specification, a report, a manuscript, a document, a manual, a photograph, a database, a computer program, a design for an apparatus or process or system, working notes, a plan, or a model. "Contractor Background Information" means any Information that was created by or for Contractor prior to making this Contract that is directly related to the Work, and Information that was made at no expense to Client. "Client Background Information" means any Information that was created by or for Client prior to making this Contract, and Information that is directly related to the Work. All Client Background Information is Client's property, must not be used by Contractor for any purpose except for the performance of the Work, and must be returned to Client at the completion of the Work or upon Client's request. All IP Rights (defined in Section 13.3) in Client Background Information remains the property of Client. All IP Rights in Contractor Background Information remains the property of Contractor. Each Party hereby grants to the other Party a non-exclusive, irrevocable, worldwide, royalty-free right and license to use and to copy its Background Information solely in connection with and for the performance of the Work.

13.2 Tangible Personal Property. "Developed Information" means all Information that is embodied in any tangible form and that is created by Contractor for Client in performance of the Work. Client owns all right, title, and interest in and to Developed Information. Ownership of Developed Information does not include ownership of any Contractor Background Information that may be embedded in the Developed Information. Developed Information must be clearly marked by Contractor as Client's property. Unless clearly and unequivocally stated otherwise in writing and expressly agreed to by Client, Contractor must furnish to Client at least one (1) tangible copy of Developed Information, or any part thereof upon request by Client, and at least one (1) tangible copy of Developed Information upon completion of the Work. If requested by Client, appropriate portions of such Developed Information will be furnished in electronic format.

13.3 Intangible Personal Property. "Intellectual Property Rights" ("IPR" or "IP Rights") means copyrights, patents, trade secrets, and other intellectual property rights. "Underlying Contractor IP Rights" means IP Rights that are owned by or licensed to Contractor, and that cover Contractor Background Information embedded in the Developed Information (or any part thereof). With the exception of Underlying Contractor IP Rights, all IP Rights in and covering the Developed Information and created by Contractor hereunder vest solely in Client ("Client IPR"); provided, however, that Client hereby grants to Contractor a non-exclusive, non-transferable, worldwide, royalty-free right and license under such Client IPR to use such Developed Information only for the benefit of Client. IP Rights in the form of trade secrets will be disclosed to the other Party only to the extent necessary and only for the purpose of performing the Work.

13.4 Copyrights. With the exception of any Underlying Contractor IP Rights, all Developed Information in the form of original works of authorship which are fixed in any tangible form and created by or on behalf of Contractor hereunder (hereinafter collectively referred to as "Creative Materials") and which are covered by the definition of "work for hire" under 17-U.S.C. 101 of the U.S. Copyright Act of 1976, are considered a "work for hire," and Client is the owner of all copyrights in any such works. As to any such Creative Materials created for Client which are not covered under the aforementioned "work for hire" definition of the Copyright Act, such that Contractor is regarded as the copyright author and owner, Contractor agrees to assign and hereby assigns all such copyright ownership in the Creative Materials to Client. Any copyright notice displayed on the Creative Materials must be in Client's name and not in Contractor's name. Contractor agrees to execute and deliver to Client any required documents and do all acts necessary to perfect Client's entire right, title, and interest in the Creative Materials. Client has the right to photograph, reproduce, copy, duplicate, modify, and make any use of Developed Information under any copyrights or equivalent rights held by Contractor.

13.5 Inventions. Contractor hereby assigns, conveys, and transfers to Client (and must require its employees, agents, representatives, and subcontractors to assign, convey, and transfer to Client), without further consideration, each and every invention, discovery, or improvement that is made, conceived, or developed by Contractor or such others as a direct result of performing the Work. Contractor must promptly notify Client whenever an invention, discovery, or improvement is made, conceived, or developed. Upon Client's request, Contractor must execute any required documents and do all acts necessary to perfect Client's entire right, title, and interest in such inventions, discoveries, and improvements. Client has sole responsibility for the preparation, filing, and prosecution of all applications for Letters Patent and will bear all costs and expenses in connection therewith. Client is under no obligation to file any patent application, secure any patent, or maintain any patent in force.

13.6 Covenants. Contractor represents that it has not and will not breach or infringe any IP Rights of any Third Party in performance of the Work. Contractor must inform Client if Contractor requires any license or similar right under a Third Party's IP Rights, or the performance of the Work requires the payment of any royalty or similar fee by or for Client. Contractor agrees to Indemnify Client Group from any Claim/Loss which may be brought against any member of Client Group at any time for breach of contract or infringement of any IP Rights allegedly relating to the performance of any Work hereunder; provided, however, that Client promptly notifies Contractor in writing of the institution of such action or suit and permits Contractor to control its Defense. Contractor must Indemnify Client Group from any damages or other sums awarded or assessed in any such action or suit. Any settlements thereon must be Approved by Client. Client may be represented by counsel of its own selection at its own expense, and agrees to cooperate fully in the Defense of any such action or suit.

13.7 Client Rights. Unless clearly and unequivocally stated otherwise and expressly agreed to by Client in writing, if the Work includes, but is not limited to, engineering or professional services, technical assistance or consultation, or authoring or creating a design or a plan for equipment, hardware, software, apparatus, process, and/or system, and if the Contractor will not make, not build, not construct, or not obtain for Client such equipment, hardware, software, apparatus, process, or system, Contractor grants to Client Group and/or will obtain for Client Group, a royalty free, paid-up, non-exclusive, irrevocable, world-wide license and right: (i) to own and have possession of all forms of such design or plan; (ii) to copy and make derivatives of such design or plan; (iii) to use such design or plan; (iv) to make all such equipment, hardware, software, apparatus, process, and/or system from such design or plan; (v) to import, use, install, test, commission, operate, maintain, alter, repair, rebuild, retrofit, convert, and decommission such equipment, hardware, software, apparatus, process, and/or system without limitation; (vi) to sell, offer for sale, donate, lease, sublease, and rent such equipment, hardware, software, apparatus, process, and/or system; and (vii) to assign and transfer any or all of such rights without limitation.

Contractor agrees that if Contractor cannot grant to Client the rights to do all the things described in this Section 13.7, it will obtain such rights at no cost to Client.

14.0 Applicable Law

14.1 This Contract may govern Work furnished by Contractor to Company in several different jurisdictions. With respect to the selection of governing law in this Article, the Parties stipulate that certainty of enforcement is an important expectation negotiated between the Parties in entering this Contract.

14.2 To the maximum extent permissible, this Contract, and any action Connected With this Contract brought by either Party (and any action brought by any member of Company Group or Client Group or any Third Party asserting a third party beneficiary claim pursuant to this Contract) shall be governed by the laws of the State of Colorado.

14.3 In the event Colorado law is held to be inapplicable by a court of competent jurisdiction, the laws of the state where the Work is performed hereunder shall apply unless application of such law to a particular provision would prevent enforcement of such provision, in which case the law applicable to such provision shall be any potentially applicable law that would allow enforcement of said provision as written.

15.0 Code of Conduct

In connection with Contractor's performance of this Contract, Contractor agrees to act consistently with the BP Code of Conduct (www.bp.com) and to adhere to the principles set out therein, including our principles of non-retaliation against "whistle blowers." Any failure to do so by Contractor shall be deemed a material breach of this Contract.

Vacancy-Details

Job detail jec

MAJOR operator in search if a Project Services LEad with 10+ years of experience to take on large, long-term Gulf of Mexico project. Must live in the Houston area and be willng to work on a 9/80 schedule on a contract basis. Full benefits and 401K provided to the selected contractor.

Contact jcoleman@swift-houston.com

Copyright ¬© 2009 All rights reserved Terms & Conditions

Rigzone Job Alert: Twice per month this email notifies you of the latest job openings posted by leaders in the oil & gas industry.
Subscribe Today:

Your email is safe with us.
Read our privacy policy

Friend's Email:Your Comments:

Your Email:
Subject:

Project Services Lead - Houston, TX
Employer: Swift Technical
Desired Expertise:Budget Planning Analyst / Cost Control, Project Management
Experience:10+ years
Education:Bachelors/3-5 yr Degree
Salary:TBD
Location:Houston, TX
Date Updated:1/15/2009

Job Description:

MAJOR operator seeking Project Services Lead for one of their largest Gulf of Mexico projects. Chosen contractor will be provided with FREE medical, dental, life and vision benefits.

Project Services Lead
Location: Houston, TX
Duration: 2 years +
Rotation: 9/80 schedule
Start Date: ASAP
Rate: To be proposed by interested candidates!

Based in Houston and will involve leading a small team (3-5 people) of Project Services professionals. The position will likely eventually be located in a contractors office. The Project Services Lead will report to the Project Services Manager and will eventually end up leading a Project Services Team that will include a Planner/Scheduler, a Cost Engineer and a Project Services Analyst. In supporting the Project Delivery Team the PSL will also have a dotted line reporting relationship in to the Delivery Manager. The position requires a proactive style and must have strengths in the following areas: Ability to lead through influence, Teamwork, Communication Skills, Planning and Organizational skills.

Experience:
A minimum of 10 years relevant industry experience on major $100M + projects preferably in the E&P Segment is desirable and deepwater experience is preferred

Education / Certifications:
Engineering or Business Degree - preferable

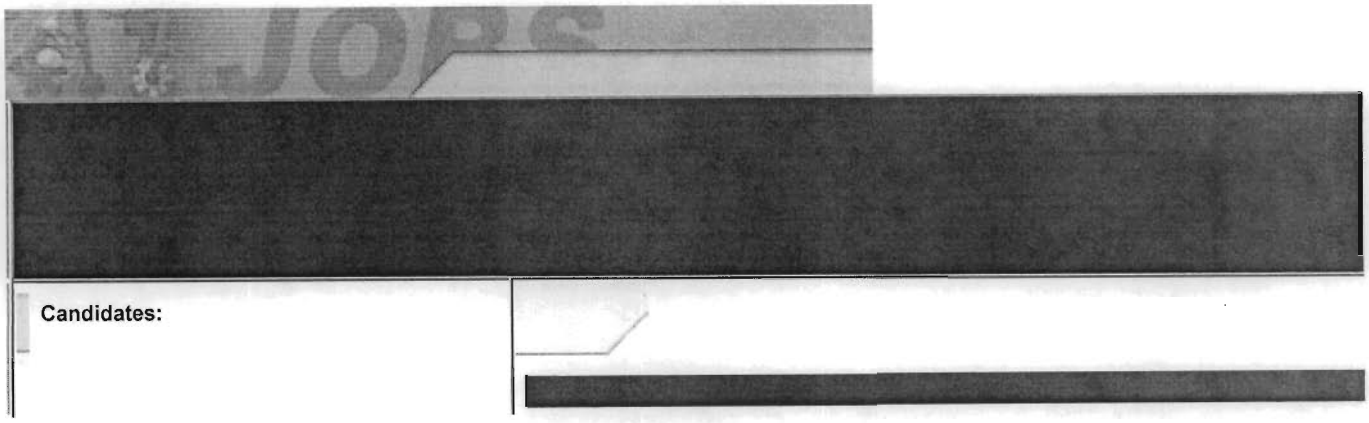
Languages Needed:
English - Fluent

Applicant Requirements:
In order to apply for this position, applicants MUST meet the following criteria. If your resume does not match these criteria, you will not be able to apply for this position.

Location: North America

Apply With One Click
If you've already posted your resume to the Rigzone Career Center, you can send your online resume to this employer for free.
Apply Online Now

RIGZONE.com
your gateway to the oil and gas industry



- Candidate Home
- Post Your Resume
- Search Jobs
- Edit Your Resume
- Your Career Center

- Downstream Jobs
- Students & Graduates

Candidate Help:

- How it Works
- FAQ

Training:

- Training Center Home
- Training Providers
- Training Events

- Training Books
- Reference Books

Recruiters:

- Recruiter Home

NEWSLETTERS

Rigzone Job Alert: Twice per month this email notifies you of the latest job openings posted by leaders in the oil & gas industry.

Subscribe Today: Your Email Here

Subscribe

(hidden)

Your email is safe with us.
Read our privacy policy

advertise

You Are Here: Jobs >> Engineer - General Job Postings >> Job Post

Friend's Email:

Your Email:

Subject: Project Services Lead - Houston, TX - Job Openir

Employer: Sw
Desired Expertise: Bu
Experience: 10
Education: Ba
Salary: TB
Location: Ho
Date Updated: 1/1

Job Description:

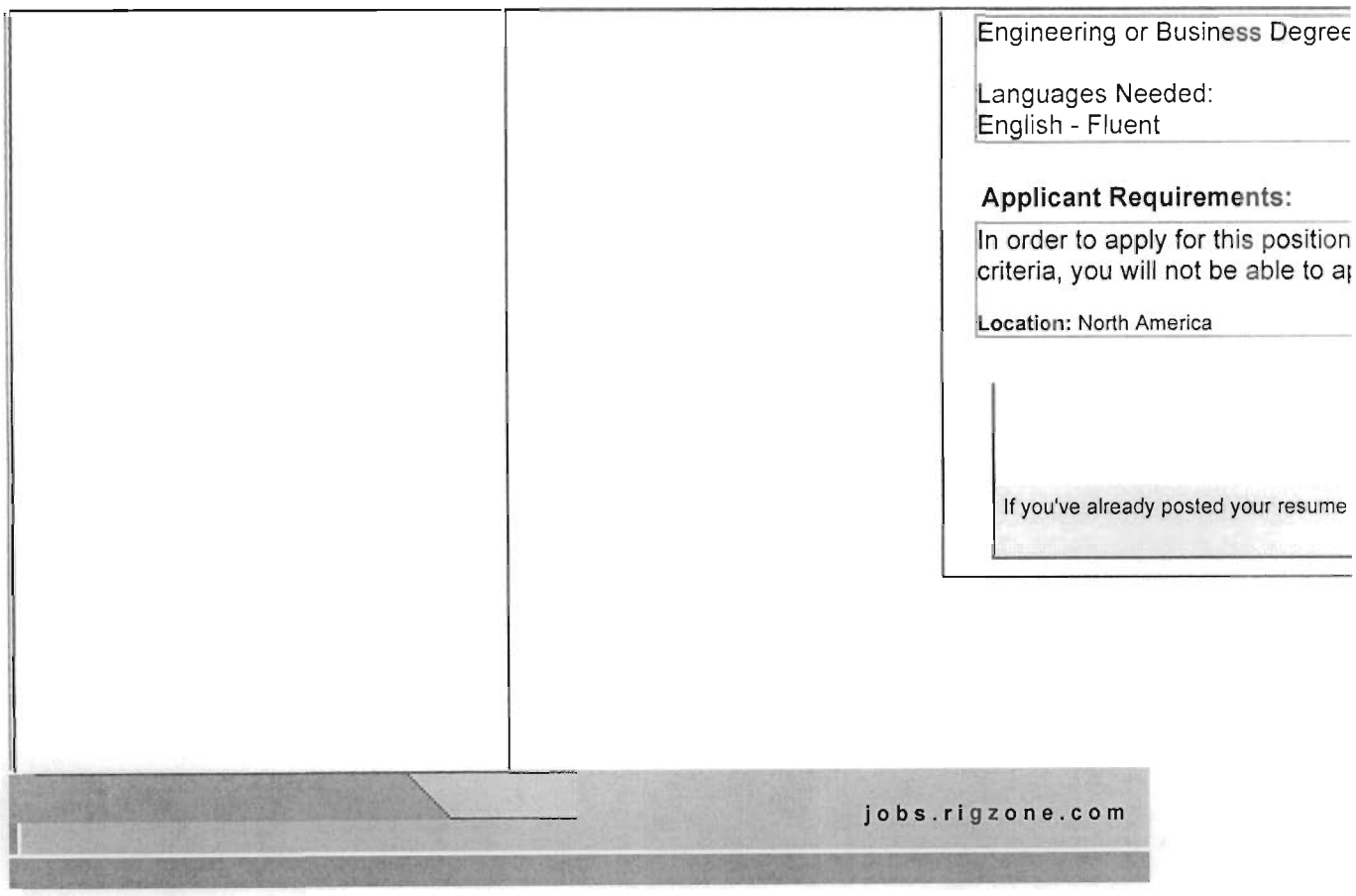
MAJOR operator seeking Projec
will be provided with FREE medi

Project Services Lead
Location: Houston, TX
Duration: 2 years +
Rotation: 9/80 schedule
Start Date: ASAP
Rate: To be proposed by interes

Based in Houston and will involv
will likely eventually be located i
Manager and will eventually end
Engineer and a Project Services
reporting relationship in to the D
the following areas: Ability to lea
skills.

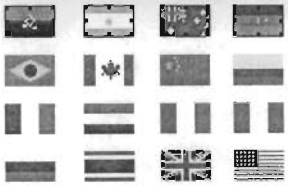
Experience:
A minimum of 10 years relevant
desirable and deepwater experi

Education / Certifications:
Engineering or Business Degree


Engineering or Business Degree
Languages Needed:
English - Fluent
Applicant Requirements:
In order to apply for this position
criteria, you will not be able to a
Location: North America
If you've already posted your resume
jobs.rigzone.com

swift
oil and gas

BOOKMARK THIS PAGE



HOME | ABOUT SWIFT | OUR SERVICES | VACANCIES | NEWS | LINKS

- Global Infrastructure
- Company Summary
- Contact Us
- Global Knowledge, Local Expertise
- Recruitment
- International Logistics
- Payroll & Taxation
- Health, Safety and Quality Assurance

Vacancies

Job detail jec

MAJOR operator in search if a Project Services LEad with 10+ years of experience to take on large, long-term Gulf of Mexico project. Must live in the Houston area and be willing to work on a 9/80 schedule on a contract basis. Full benefits and 401K provided to the selected contractor.

Contact jcoleman@swift-houston.com

APPLY | MORE VACANCIES

Copyright © 2009 All rights reserved Terms & Conditions

E-mail 20 of 61

Unknown

From: Kelly Owrey [kowrey@swift-houston.com]
Sent: Thursday, February 05, 2009 9:08 AM
To: kwabbott@comcast.net
Subject: Requested Documents - Abbott
Attachments: Kenneth Abbott.pdf; 20090205210506948.pdf

Ken,

As requested, attached is the copy of your LLC Contract for Services with Swift as well as the Termination letter that was mailed to you.

Let me know if you have any questions,

Kelly

Kelly Owrey | Contracts Manager

Direct +1 713 328 4572 | Main +1 713 328 4560 | Fax +1 713 328 4561 | Cell +1 281 381 3424

swift
oil and gas

This message is intended only for the stated addressee(s) and may be confidential. Access to this email by anyone else is unauthorised. Any opinions expressed in this email do not necessarily reflect the opinions of Swift Technical Group Holdings Limited, its subsidiary or associated companies.

www.swiftoilandgas.com

This agreement is entered into and made effective the 18th day of Augusth 2008 by and between:

Swift Technical Services LLC, a corporation organized and existing under the laws of the United States with its registered offices at 3050 Post Oak Blvd., Suite 1450, Houston, Texas 77056 (hereinafter referred to as "COMPANY") of the one part and;

Kenneth Abbott (hereinafter referred to as "CONTRACTOR") of the other part;

EXHIBIT A – SPECIFIC CONDITIONS

Project:	**Atlantis Project**
Services:	**Subsea Project Services Leader**
Commencement Date:	**18 August 2008**
Completion Date:	**18 August 2010 (subject to extension)**
Working Hours:	**9/80 Schedule (or in accordance with operational requirements)**
Base Location:	**Houston, Texas - United States**
Rate:	**US $900.00 per day worked**
Medical, dental, vision, life insurance, AD&D Insurance and long term disability:	**Provided by Company for Contractor. Family members may be covered at Contractor's own cost.**
401K:	**Provided by Company for Contractor – Company provides a full (100%) match of contributions made by Contractor, up to 5% of Contractor's gross pay.**

In Witness Whereof, the parties have duly executed this Agreement in duplicate originals.

For and on behalf of **Swift Technical Services LLC**

Karlny Ritter
Contracts Administrator

Date: July 23, 2008

I hereby accept this Agreement on the terms and conditions set out above
Kenneth Abbott

Date: 7/23/08

EXHIBIT B – GENERAL TERMS AND CONDITIONS

1.0 Interpretation

1.2 Reference to any statute, statutory provision or statutory instrument includes a reference to that statute, statutory provision or statutory instrument as from time to time amended, extended or re-enacted.

1.3 Reference to the singular includes a reference to the plural and vice versa and reference to one gender includes a reference to the other gender.

1.4 Headings are used for convenience only and will not affect the construction or validity of this Contract.

2.0 Definitions

2.1 "Affiliate or Affiliates" of a company shall mean a current or future Person directly or indirectly controlling, controlled by, or under common control with such company. "Control" for this purpose shall, in the case of a corporation with outstanding voting stock, require the direct or indirect ownership of or power to vote with respect to outstanding shares of a corporation's capital stock constituting fifty percent (50%) or more of the votes of any class of such corporation's outstanding voting stock, and with respect to any Person other than a corporation, the possession, directly or indirectly, of the power to direct or cause the direction of such person's management or policies.

2.2 "Approved" shall mean approved in writing (including subsequent written confirmation of previous verbal approval) and "Approval" means approval in writing (including subsequent written confirmation of previous verbal approval).

2.3 "Work" shall mean the consulting services to be performed pursuant to this Contract.

2.4 "Work Site(s)" shall mean the location or locations on, under, in, or through which the Work is to be performed by Contractor.

2.5 "Client" shall refer to BP America Production Company.

2.6 "Company" shall mean Swift Technical Services LLC.

2.7 "Contractor" shall mean Kenneth Abbott.

3.0 Performance

Contractor shall perform the Work in a diligent, skillful, safe and workmanlike manner, and in accordance with the highest level of accepted standards within the industry to prompt completion subject to all of the terms and conditions of this Contract and to the satisfaction of Company and Company's representative.

4.0 Contractor to Inform Itself

Contractor is deemed to have accepted the terms and conditions of this agreement upon commencement of the services.

5.0 Insurance

5.1 The Contractor shall not cause or permit the use of any motor vehicle for any business purposes in connection with the Works unless adequate third party insurance cover is in force in respect of such user. The Contractor will at all times keep the Client/Company indemnified against any liability (whether in respect of any insured risk or otherwise) incurred by the Client/Company or arising otherwise in connection with the use of any motor vehicle for any such purpose.

5.2 Contractor shall endeavour to notify Company in the event they are required to work offshore, in order to ensure full insurance compliance

4.0 Payment

4.1 Contractor shall complete timesheets and expense claim forms (where applicable) and submit to Client Representative for approval.

We advise that all timesheets and expenses are due in accordance with the attached payroll schedule.

Expense claim forms must be supported by original receipts.

4.2 Should Client dispute any invoice from Company relating to Contractor's payment which results in Client deducting monies from Company, Company shall deduct the equivalent from Contractor's next payment.

4.3 No payment shall be made by Company to Contractor when absent from work for any reason whatsoever. Only time actually worked by Contractor on the authorised business of client shall be reimbursable.

5.0 Taxation

Unless otherwise stated under Exhibit A, Company may at all times during the continuance of the Services make all such deductions of or on account of income tax, social taxes and such other taxes, contributions, levies or imposts as may from time to time be deductible by or due from the Contract in respect of or in connection with the monies paid by the Company to Contractor.

6.0 Termination

6.1 Company may, at any time, with or without cause, terminate this contract, by giving five (5) Days' written notice to Contractor specifying the date of termination (hereafter referred to as the "Termination Date").

6.2 Regardless of the basis for termination, on the Termination Date, Contractor shall discontinue the Work and comply with the applicable provisions of this Article and any other applicable provisions of the Contract. Contractor shall preserve all work in progress and shall turn over the Work to Client in accordance with Client's instructions.

6.3 Upon termination as provided for in this Article, title to and possession of all permits, licenses, drawings, data, specifications, or other items acquired for Client will immediately thereon pass to and vest in Client.

6.4 Contractor shall not without the prior consent of the Company, for a period of twelve (12) months after the termination of their employment directly or indirectly and whether on their own behalf or on behalf of any other business concern, person, partnership, firm, company or other body, be engaged, concerned or interested in any capacity, in the Client or in any other business which is wholly or partly connected to the project where assigned by the Company under this agreement.

7.0 Medical Policy

7.1 Contractor warrants that they are medically fit to perform the Services.

7.2 Contractor shall complete and sign the attached medical form and return to Company. Failure to do so may constitute as a material breach of this contract and as a result Company may remove Contractor from the area of operations.

7.3 It is the Contractor's responsibility to notify Company should they be required to travel on business outside the USA, in order for the Company to cover them under their emergency medical policy.

7.4 Contractor must ensure that they are medically fit to work on overseas assignments and provide Company with a medical certificate of fitness, prior to undertaking a business trip.

7.5 All costs associated in obtaining the appropriate medical examination must be borne by Contractor.

8.0 Independent Contractor

In the performance of the Work, Contractor is an independent contractor, shall control the performance of the details of the Work, and shall be responsible for the results as well as responsible for ensuring that the performance of the Work is conducted in a manner consistent with appropriate safety, health, and environmental considerations, including, but not limited to, Client's policies thereon. The Work may be supplemented by instructions from Client's representative(s), and Client reserves the rights of observation and inspection to secure satisfactory completion of Work.

9.0 Confidentiality

9.1 Contractor agrees that Client Background Information (as defined in Section 14.1), Developed Information (as defined in Section 14.2), and any other technical or business information (hereinafter "Client Confidential Information") that is disclosed to Contractor in connection with any Work hereunder by Client, either orally or in writing, is to be treated as confidential and proprietary. Contractor agrees that Client Confidential Information will be maintained in strict confidence and not used or disclosed to Third Parties other than in performing Work for Client. The requirement to maintain information in strict confidence, however, shall not apply to Client Confidential Information that: (i) is or becomes generally available to the public through no wrongful act of Contractor; (ii) was in the possession of Contractor prior to the time it was acquired hereunder and was not acquired, directly or indirectly, from Client or its Affiliates or from others under an obligation of confidentiality; (iii) is independently made available as a matter of right to Contractor by a Third Party without obligations of confidentiality, provided that such Third Party did not acquire such information directly or indirectly from Client or its Affiliates; or (iv) is required by law to be divulged, provided that Contractor must notify Client prior to any disclosure, and must assist Client in minimizing the extent of disclosure.

9.2 Contractor acknowledges and agrees that Client, in its sole discretion, may deliver and/or store Client Confidential Information in digital form on the Internet, extranets and/or through public networks and service providers. Such digital information will be stored on internal or external computers and accessed from public telecommunications networks, and will be accessible by a controlled group of Persons (the "Controlled Group"). Contractor agrees that the delivery and storage of such Client Confidential Information in this manner must not be deemed as making the information generally available to the public, even if such Client Confidential Information is accessed by Persons who are not within the Controlled Group.

9.3 Contractor must not disclose Client Confidential Information to any Third Party or use it or any part thereof except in the performance of the Work. Contractor must not make nor permit the making of any copies, abstracts, derivatives, or summaries of any Client Confidential Information, except in the performance of the Work. Upon completion of Work for Client, or at Client's request, Contractor must return all Client Confidential Information (including, but not limited to, all copies, abstracts, derivatives, and summaries).

9.4 No press release or other public announcement or public disclosure having or containing any reference, either directly or by implication, to this Contract or the transactions herein contemplated, or to Client or any other Persons of Client Group, will be made or used by Contractor or on its behalf, unless the same has been Approved by an authorized officer of Client. This prohibition specifically includes, but is not limited to, any public release (either through print or broadcast news media), any articles prepared for internal or external publication, technical papers, and discussions with journalists or other Third Parties.

10.0 Force Majeure

Except as may be specifically otherwise provided in this Contract, neither Party shall be liable for delays in performance or for non-performance directly occasioned or caused by Force Majeure. Should conditions in the location where the Work is performed, in the reasonable opinion of Company, become such that continuance of the Work would be unduly hazardous, Company may suspend the Work and such suspension will be considered Force Majeure. Inability of either Party to secure funds will not be regarded as Force Majeure. Upon the occurrence of Force Majeure, the Party affected shall give immediate notice thereof to the other Party and shall, at its cost and expense, do all things reasonably possible to remove or mitigate its effects

11.0 Suspension

11.1 Company shall have the right to suspend all or any part of the Work at any time and at its sole discretion by giving written notice of suspension to Contractor.

11.2 Upon termination of any such suspension, Contractor shall immediately re-commence the Work under the terms and conditions of this Contract with the same labor and resources as were previously employed on the Work.

12.0 Compliance with Laws

12.1 Company warrants that Contractors are familiar with and knowledgeable about all relevant laws, rules regulations, decrees, federal, state and local, which are now or may become applicable to the Contract and any Work performed in connection herewith, including without limitation, those pertaining to immigration, health, safety, security, and environmental protection (hereinafter sometimes referred to as the "Laws") and Contractor warrants that in conducting the Work hereunder it will comply with all such Laws.

12.2 Contractor shall not pay any fee, commission, rebate, or other value to or for the benefit of any governmental official having jurisdiction over the Work Site, if such payment would be inconsistent with or penalized by the laws and regulations of the United States.

12.3 Contractor agrees to Indemnify Company Group from and against any Claims/Losses resulting from Contractor's failure to comply with all applicable Laws.

12.4 If any portion of the Work will occur on the Outer Continental Shelf, then Company shall supply individuals who are authorized under the laws of the United States to perform the Work. Any individual who lacks such authorization will not be allowed to take part in the portion of the Work that occurs on the Outer Continental Shelf.

13.0 Intellectual Property and Indemnification

13.1 Background Information. "Information" means any information embodied in any tangible form including, but not limited to, a work of authorship, a process diagram, a drawing, a blueprint, a model, a specification, a report, a manuscript, a document, a manual, a photograph, a database, a computer program, a design for an apparatus or process or system, working notes, a plan, or a model. "Contractor Background Information" means any Information that was created by or for Contractor prior to making this Contract that is directly related to the Work, and Information that was made at no expense to Client. "Client Background Information" means any Information that was created by or for Client prior to making this Contract, and Information that is directly related to the Work. All Client Background Information is Client's property, must not be used by Contractor for any purpose except for the performance of the Work, and must be returned to Client at the completion of the Work or upon Client's request. All IP Rights (defined in Section 13.3) in Client Background Information remains the property of Client. All IP Rights in Contractor Background Information remains the property of Contractor. Each Party hereby grants to the other Party a non-exclusive, irrevocable, worldwide, royalty-free right and license to use and to copy its Background Information solely in connection with and for the performance of the Work.

13.2 Tangible Personal Property. "Developed Information" means all Information that is embodied in any tangible form and that is created by Contractor for Client in performance of the Work. Client owns all right, title, and interest in and to Developed Information. Ownership of Developed Information does not include ownership of any Contractor Background Information that may be embedded in the Developed Information. Developed Information must be clearly marked by Contractor as Client's property. Unless clearly and unequivocally stated otherwise in writing and expressly agreed to by Client, Contractor must furnish to Client at least one (1) tangible copy of Developed Information, or any part thereof upon request by Client, and at least one (1) tangible copy of Developed Information upon completion of the Work. If requested by Client, appropriate portions of such Developed Information will be furnished in electronic format.

13.3 Intangible Personal Property. "Intellectual Property Rights" ("IPR" or "IP Rights") means copyrights, patents, trade secrets, and other intellectual property rights. "Underlying Contractor IP Rights" means IP Rights that are owned by or licensed to Contractor, and that cover Contractor Background Information embedded in the Developed Information (or any part thereof). With the exception of Underlying Contractor IP Rights, all IP Rights in and covering the Developed Information and created by Contractor hereunder vest solely in Client ("Client IPR"); provided, however, that Client hereby grants to Contractor a non-exclusive, non-transferable, worldwide, royalty-free right and license under such Client IPR to use such Developed Information only for the benefit of Client. IP Rights in the form of trade secrets will be disclosed to the other Party only to the extent necessary and only for the purpose of performing the Work.

13.4 Copyrights. With the exception of any Underlying Contractor IP Rights, all Developed Information in the form of original works of authorship which are fixed in any tangible form and created by or on behalf of Contractor hereunder (hereinafter collectively referred to as "Creative Materials") and which are covered by the definition of "work for hire" under 17-U.S.C. 101 of the U.S. Copyright Act of 1976, are considered a "work for hire," and Client is the owner of all copyrights in any such works. As to any such Creative Materials created for Client which are not covered under the aforementioned "work for hire" definition of the Copyright Act, such that Contractor is regarded as the copyright author and owner, Contractor agrees to assign and hereby assigns all such copyright ownership in the Creative Materials to Client. Any copyright notice displayed on the Creative Materials must be in Client's name and not in Contractor's name. Contractor agrees to execute and deliver to Client any required documents and do all acts necessary to perfect Client's entire right, title, and interest in the Creative Materials. Client has the right to photograph, reproduce, copy, duplicate, modify, and make any use of Developed Information under any copyrights or equivalent rights held by Contractor.

13.5 Inventions. Contractor hereby assigns, conveys, and transfers to Client (and must require its employees, agents, representatives, and subcontractors to assign, convey, and transfer to Client), without further consideration, each and every invention, discovery, or improvement that is made, conceived, or developed by Contractor or such others as a direct result of performing the Work. Contractor must promptly notify Client whenever an invention, discovery, or improvement is made, conceived, or developed. Upon Client's request, Contractor must execute any required documents and do all acts necessary to perfect Client's entire right, title, and interest in such inventions, discoveries, and improvements. Client has sole responsibility for the preparation, filing, and prosecution of all applications for Letters Patent and will bear all costs and expenses in connection therewith. Client is under no obligation to file any patent application, secure any patent, or maintain any patent in force.

13.6 Covenants. Contractor represents that it has not and will not breach or infringe any IP Rights of any Third Party in performance of the Work. Contractor must inform Client if Contractor requires any license or similar right under a Third Party's IP Rights, or the performance of the Work requires the payment of any royalty or similar fee by or for Client. Contractor agrees to Indemnify Client Group from any Claim/Loss which may be brought against any member of Client Group at any time for breach of contract or infringement of any IP Rights allegedly relating to the performance of any Work hereunder; provided, however, that Client promptly notifies Contractor in writing of the institution of such action or suit and permits Contractor to control its Defense. Contractor must Indemnify Client Group from any damages or other sums awarded or assessed in any such action or suit. Any settlements thereon must be Approved by Client. Client may be represented by counsel of its own selection at its own expense, and agrees to cooperate fully in the Defense of any such action or suit.

13.7 Client Rights. Unless clearly and unequivocally stated otherwise and expressly agreed to by Client in writing, if the Work includes, but is not limited to, engineering or professional services, technical assistance or consultation, or authoring or creating a design or a plan for equipment, hardware, software, apparatus, process, and/or system, and if the Contractor will not make, not build, not construct, or not obtain for Client such equipment, hardware, software, apparatus, process, or system, Contractor grants to Client Group and/or will obtain for Client Group, a royalty free, paid-up, non-exclusive, irrevocable, world-wide license and right: (i) to own and have possession of all forms of such design or plan; (ii) to copy and make derivatives of such design or plan; (iii) to use such design or plan; (iv) to make all such equipment, hardware, software, apparatus, process, and/or system from such design or plan; (v) to import, use, install, test, commission, operate, maintain, alter, repair, rebuild, retrofit, convert, and decommission such equipment, hardware, software, apparatus, process, and/or system without limitation; (vi) to sell, offer for sale, donate, lease, sublease, and rent such equipment, hardware, software, apparatus, process, and/or system; and (vii) to assign and transfer any or all of such rights without limitation.

Contractor agrees that if Contractor cannot grant to Client the rights to do all the things described in this Section 13.7, it will obtain such rights at no cost to Client.

14.0 Applicable Law

14.1 This Contract may govern Work furnished by Contractor to Company in several different jurisdictions. With respect to the selection of governing law in this Article, the Parties stipulate that certainty of enforcement is an important expectation negotiated between the Parties in entering this Contract.

14.2 To the maximum extent permissible, this Contract, and any action Connected With this Contract brought by either Party (and any action brought by any member of Company Group or Client Group or any Third Party asserting a third party beneficiary claim pursuant to this Contract) shall be governed by the laws of the State of Colorado.

14.3 In the event Colorado law is held to be inapplicable by a court of competent jurisdiction, the laws of the state where the Work is performed hereunder shall apply unless application of such law to a particular provision would prevent enforcement of such provision, in which case the law applicable to such provision shall be any potentially applicable law that would allow enforcement of said provision as written.

15.0 Code of Conduct

In connection with Contractor's performance of this Contract, Contractor agrees to act consistently with the BP Code of Conduct (www.bp.com) and to adhere to the principles set out therein, including our principles of non-retaliation against "whistle blowers." Any failure to do so by Contractor shall be deemed a material breach of this Contract.

swift oil and gas

Swift Technical Services, LLC
3050 Post Oak Blvd., Suite 1450
Houston, Texas 77056
t: +1 713 328 4560
f: +1 713 328 4561
e: info@swift-houston.com
www.swiftoilandgas.com

04 February 2009

K Abbott
9726 Refugio Court
Houston
Texas
77064

Dear Kenneth,

Re: Swift Technical Services LLC – Contract Termination

We have been notified by BP that your services will no longer be required with effect from February 10, 2009.

We would like to take this opportunity in thanking you for your services. Please be assured that we will contact you as soon as we have a suitable vacancy.

We would be grateful if you would also forward an updated copy of your CV.

Yours sincerely,

Angie Homb

Angie Homb
Contracts Administrator

E-mail 21 of 61

From: Pasha Eatedali [pasha.eatedali@ombudsmanecp.com]
Sent: Thursday, February 05, 2009 4:05 PM
To: Kenneth Abbott
Subject: RE: Requested Documents - Abbott
Attachments: Abbott Chronology.doc

Ken,

Please review the attached document for factual verification...

Pasha Eatedali
Office of The Ombudsman
1300 Eye Street, NW
Suite 900
Washington, DC 20005
Phone: 202-682-7262
Email: pasha.eatedali@ombudsmanecp.com

The information contained in this
email message is intended only for use of the individual or entity
named above. If the reader of this message is not the intended
recipient, or the employee or agent responsible to deliver it to
the intended recipient, you are hereby notified that any
dissemination, distribution or copying of this communication is
strictly prohibited. If you have received this communication in
error, please immediately notify us by email
and destroy the original message. Thank you.

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Thursday, February 05, 2009 3:29 PM
To: Pasha Eatedali
Subject: FW: Requested Documents - Abbott

Pashda – attached are the items you requested...

2009-005 (Abbott and Atlantis) Chronology and Abbott's Retaliatory Discharge and BP Breach of Contract Complaint

- **July 21, 2008**
  - Kenneth Abbott has his services contracted by Swift Technical (contractor) to BP America with a start date of August 18, 2008 and an ending date of 2010
  - Position is Subsea Projects Services Leader
  - Letter and signed contract sent by Kerri Walsh who is Business Development Manager for Swift Technical

- **December 23, 2008**
  - *9:00 AM* - Mr. Abbott alleges that one of his employees (Becky Cavalier a Cost Analyst from a Turner & Townsend) approaches him about being harassed and discriminated against by Alan Clark (Cost Engineer from Clover)
  - *10:00 AM* – Mr. Abbott approaches Mr. Clark regarding the concerns raised to him. He alerts Mr. Clark that he needs to improve his communications with Ms. Cavalier. Mr. Clark requested that Ms. Cavalier be terminated because she was "no good." (he also called her a SILLY OLD SOW, and Mr. Abbott reminded him that was discrimination. Mr. Abbott replied that he had only heard good things about her and that firing her would not be the solution, which resulted in Mr. Clark becoming angry…Mr. Abbott reminded him that everyone had to "work together in order to get the job done." Clark then told Abbott to fuck off and leave his office, which was insubordinate.
  - *10:30 AM* – Mr. Abbott is approached by Mr. Clark asking him to sign his timesheet. After which Mr. Clark left his office announcing that Mr. Abbott had just fired him. Mr. Abbott expressed that at no point did he tell Mr. Clark that he was terminated.
  - *11:00 AM* – Mr. Clark dropped his key off to the admin for Atlantis (Necie Kelley) and alerted her that he was leaving. Mr. Abbott left Mr. Clark a cell phone message asking him to call him to resolve the issues. Later, Abbott phones Naseman at home (he is on 2 week Xmas break) to brief him on the departure of Clark, and Naseman tells Abbott that Alan has done this same kind of hostile departure on two other BP jobs previously, and the last job before this one he left without any notice after an argument with his supervisor and then tried to come back three days later, and the supervisor refused. My question is why did BP leave this guy in place knowing he is a ticking time bomb? Mike Price, PE on, Atlantis and Doug McGregor, cost engineer on Atlantis, also independently confirmed to Abbott the hostile behavior of Alan to several employees, and Mike Mills, his ex supervisor for Turner and Townsend also said he had Turner scared of him and was always blowing up over nothing.

BOE Confidential

- **Sometime after Mr. Clark left (Between Dec. 23 – Jan. 12, 2009)**
  - Mr. Abbott believes that shortly after Mr. Clark left the company he wrote an email to John Schwebel (Project Director – BP) and from what he has heard secondhand, the email is very critical of Mr. Abbott →,and blaming Mr. Abbott for the events that transpired, and also accusing Becky Cavalier of causing his firing, and that she was the problem, not him. The email was apparently then distributed amongst project management and engineering leads on Atlantis, including Benny Kirkham and Mr. Naseman. Mr. Abbott has not been allowed to view the email or respond to it. Schwebel told Abbott that Alan did a good job and that Becky Cavalier and all others in the group were incompetent. Benny made discriminatory statements against Becky Cavalier and said not to hitch my wagon to her. Other Atlantis team cost engineers supported Becky. Doug McGregor said that Alan had been continually harassing and humiliating her for the past few months.
  - During the week of 1/6/09, Ken Abbott received an email BP system alert that his system access was going to expire soon, and that he needed to get it reauthorized by his supervisor, and that his contract expire date was 2/27/09. Abbott sent an email to Naseman requesting the reauthorization and asking why the system showed his contract ending in 6 months instead of 24, and he received no reply. Finally, Abbott called Naseman re the email, and Naseman said they would discuss it at the 1/12/09 meeting. This is very good evidence the contract expire date was moved up by Naseman, based on his decision to terminate Abbott in retaliation for his trying to protect the rights of Becky Cavalier to not endure harassment.

- **January 12, 2009**
  - Mr. Abbott alleges that Bill Naseman (BP Project Services Mgr for Atlantis) calls him into his office and blames Mr. Abbott for all of the events that had transpired with Mr. Clark. Mr. Naseman alerted Mr. Abbott that he did not follow the BP manager guidelines and that they would start having monthly meetings to work on his management skills and that Mr. Abbott should have spoken to Mr. Naseman before confronting Mr. Clark, although Abbott had never been told this previously, and although BP put him in a supervisory role over five people. Abbott has previously had nothing but good reports on his performance from his project director Bill Broman and Naseman. Abbott had been also told by Naseman in October 2008 that his contract position would go to permanent BP staff status in early 2009, and when Abbott was hired in August 2008, Naseman told him that the position was a temp to perm position.

- **January 15, 2009**
  - Swift Oil and Gas posts an employment opportunity for the position of "Project Services Lead" for a "MAJOR operator" that calls for a person to work on a "long-term Gulf of Mexico project." Kerri Walsh of Swift tells Ken Abbott that the position was for the BP GOM Atlantis, and that Bill Naseman has interviewed two candidates for the position.

- *Raises questions as to whether BP planned on hiring another contract employee to replace Mr. Abbott – shortly after Mr. Naseman had confronted Mr. Abbott about the incident with Mr. Clark. This job posting is in direct contrast to the information BP provided the OoO regarding the Project Services Lead position.*

- **January 29-30, 2009**
  - BP asserts that Bill Naseman, Bill Broman (Atlantis Subsea Delivery Manager), Dirk Smit (Atlantis Phase 2 Delivery Manager), and Simon Todd (VP Atlantis) discussed whether the company could reduce costs by combining two Project Services Lead into one BP PSL position held by Simm Powell (who had just replaced the other Project Services Lead – Mike Mills (contractor). From the evidence above, it is clear that Bill Naseman's decision to retaliate against Ken Abbot was made sometime in early January 2009.

- **January 30, 2009**
  - BP asserts that Bill Naseman, Project Services Manager for Atlantis decides that Ken Abbott's position should be eliminated.

- **February 3, 2009**
  - Mr. Abbott is told that his contract is being terminated early, and that his final day would be February 9th.
  - 4:00 PM EST – Mr. Abbott brings his concern regarding his retaliatory discharge to OoO

4:30-4:50 PM EST – Mr. Abbott asserted he was to have a meeting with BP HR, his contractor manager, and Naseman to discuss his termination. Instead he was approached by Bill Naseman and Greg Farnham (BP Atlantis HR) and was told that it was best that he pack his things and leave the premises, rather than waiting till Friday because of all the allegations he had raised, and all that had transpired that day. Bill Naseman stated when he came to Abbott's office with Farnham that he was let go for lack of work (as did Kerri Walsh in her call to Abbott telling me about the dismissal earlier that day). The evidence shows this was false. I must tell you how much this illegal termination has bothered me, because not only was there a false reason for dismissal, but more importantly, it was hard to have a personal attack on my management and professional skills as a result of standing up for an employee who was being harassed. As soon as Bill Naseman returned from his Christmas holiday on app.1/6/09, he started this retaliation against Ken Abbott.

- **Abbott's Concluding Remarks:**

Ken Abbott has been harassed and retaliated against by being terminated because he did the right thing for BP as a supervisor and stood up for a female employee who had accused Alan Clark of harassed. His effort to resolve the issue probably helped BP avoid a discrimination/harassment lawsuit by Becky Cavalier. No one has even bothered to interview Becky Cavalier (except Ken Abbott). Instead of interviewing Becky and the entire team and conducting a proper investigation, Naseman chose to falsely blame Ken

OGC Confidential

Abbott based on the input of two employees (John Schwebel and Benny Kirkham) who wanted to cover up for Alan, and being angry he left, wanted to falsely blame and punish Ken Abbott and Becky Cavalier. Abbott also believes that Bill Naseman was negligent in not telling Abbott about Clark's severe communication problems, and in bringing Clark into the group, to be inherited by Mr. Abbott, when Alan's hot tempered and insubordinate history at BP was well known and documented. The passing around of defamatory material by BP employees Schwebel and Naseman and contractors on the Atlantis Project without any chance for Abbott to see it or to defend his reputation was also inexcusable and damaged his reputation tremendously.

There is also the matter of Naseman's illegally changing the terms of Abbott's employment contract by moving the end date from August 18, 2010 back to February 27, 2009 without getting Abbott's consent. This is breach of contract and could result in civil/criminal penalties to BP and full payment to Abbott of the two year contract term. There is substantial evidence of the fraud by Naseman. The BP computer system notice emails to Abbott and emails to Naseman from Abbott show the contract end date was revised to 2/27/09. Also, as reported to Abbott by the Ombudsman, on Wednesday 2/4/09, the VP of Atlantis project Simon Todd and Naseman and the ombudsman met to discuss Abbott's termination and Simon Todd stated that Abbott's contract end date was 2/27/09.

I think BP is overall a good place to work, and I would like to see this illegal termination and breach of contract resolved within the company, and my employment reinstated somewhere within BP. If that cannot be achieved, then full payment of my remaining contract term would be fair.

E-mail 22 of 61

Unknown

From: Kenneth Abbott [kwabbott@comcast.net]
Sent: Tuesday, February 10, 2009 9:27 AM
To: 'Pasha.eatedali@ombudsmanecp.com'
Subject: FW: Ken Abbott's Employment contract
Attachments: Kenneth Abbott.pdf

FYI, my formal request to BP for payment of my contract amount based on the breach of contract by Bill Naseman...

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Tuesday, February 10, 2009 9:21 AM
To: 'Paul.Egner@bp.com'
Cc: 'Kelly Owrey'
Subject: Ken Abbott's Employment contract

Paul – This is to advise that I was discharged today. Since you are the Sourcing contract administrator for BP Atlantis, I am writing to inform you of a breach of my employment contract by BP. Because the contract was breached by Bill Naseman of BP, and as per the Texas payday law, I am requesting full payment of the approximately 18 months remaining on my 2 year contract within six days of my last day on the payroll (2/10/09). The specifics of the breach are detailed below. I have also attached my signed contract for your review.

Kelly – By copy of this email, I am also requesting that you enforce this contract and act to resolve this breach as the contracts administrator for Swift.

- I originally signed a two year contract with BP. During the week of 1/6/09, I discovered that the material terms of that contract had been illegally changed by Bill Naseman. He reduced the term of the contract to six months with a new completion date of 2/27/09, without my agreement or signature to the contract. During the week of 1/6/09, I received an email from the BP computer system admin, advising me that my contract end date was now 2/27/09 and I would need to get authorization to renew the end date or my access to the system would be denied on that date. I emailed and called Bill Naseman to find out what was going on during that week and got no answer. On 2/4/09, as per the BP ombudsman Billie Garde, in a meeting with Naseman and Simon Todd to discuss my retaliatory discharge, Simon Todd told the ombudsman that my contract end date was 2/27/09 instead of the original 8/18/2010.
- Since my termination was a retaliatory discharge by Naseman, (and there is substantial evidence that it was retaliation) the contract has also been violated and BP is in breach, because the contract calls for no retaliatory behavior, and because the dismissal violated US employment laws. Naseman terminated me in retaliation for my trying to resolve Becky Cavailer's complaint to me of harassment and discrimination by Alan Clark.

This agreement is entered into and made effective the 18th day of Augusth 2008 by and between:

Swift Technical Services LLC, a corporation organized and existing under the laws of the United States with its registered offices at 3050 Post Oak Blvd., Suite 1450, Houston, Texas 77056 (hereinafter referred to as "COMPANY") of the one part and;

Kenneth Abbott (hereinafter referred to as "CONTRACTOR") of the other part;

EXHIBIT A – SPECIFIC CONDITIONS

Project:	**Atlantis Project**
Services:	**Subsea Project Services Leader**
Commencement Date:	**18 August 2008**
Completion Date:	**18 August 2010 (subject to extension)**
Working Hours:	**9/80 Schedule (or in accordance with operational requirements)**
Base Location:	**Houston, Texas - United States**
Rate:	**US $900.00 per day worked**
Medical, dental, vision, life insurance, AD&D Insurance and long term disability:	**Provided by Company for Contractor. Family members may be covered at Contractor's own cost.**
401K:	**Provided by Company for Contractor – Company provides a full (100%) match of contributions made by Contractor, up to 5% of Contractor's gross pay.**

In Witness Whereof, the parties have duly executed this Agreement in duplicate originals.

For and on behalf of **Swift Technical Services LLC**

Karlny Ritter
Contracts Administrator

Date: July 23, 2008

I hereby accept this Agreement on the terms and conditions set out above
Kenneth Abbott

Date: 7/23/08

EXHIBIT B – GENERAL TERMS AND CONDITIONS

1.0 Interpretation

1.2 Reference to any statute, statutory provision or statutory instrument includes a reference to that statute, statutory provision or statutory instrument as from time to time amended, extended or re-enacted.

1.3 Reference to the singular includes a reference to the plural and vice versa and reference to one gender includes a reference to the other gender.

1.4 Headings are used for convenience only and will not affect the construction or validity of this Contract.

2.0 Definitions

2.1 "Affiliate or Affiliates" of a company shall mean a current or future Person directly or indirectly controlling, controlled by, or under common control with such company. "Control" for this purpose shall, in the case of a corporation with outstanding voting stock, require the direct or indirect ownership of or power to vote with respect to outstanding shares of a corporation's capital stock constituting fifty percent (50%) or more of the votes of any class of such corporation's outstanding voting stock, and with respect to any Person other than a corporation, the possession, directly or indirectly, of the power to direct or cause the direction of such person's management or policies.

2.2 "Approved" shall mean approved in writing (including subsequent written confirmation of previous verbal approval) and "Approval" means approval in writing (including subsequent written confirmation of previous verbal approval).

2.3 "Work" shall mean the consulting services to be performed pursuant to this Contract.

2.4 "Work Site(s)" shall mean the location or locations on, under, in, or through which the Work is to be performed by Contractor.

2.5 "Client" shall refer to BP America Production Company.

2.6 "Company" shall mean Swift Technical Services LLC.

2.7 "Contractor" shall mean Kenneth Abbott.

3.0 Performance

Contractor shall perform the Work in a diligent, skillful, safe and workmanlike manner, and in accordance with the highest level of accepted standards within the industry to prompt completion subject to all of the terms and conditions of this Contract and to the satisfaction of Company and Company's representative.

4.0 Contractor to Inform Itself

Contractor is deemed to have accepted the terms and conditions of this agreement upon commencement of the services.

5.0 Insurance

5.1 The Contractor shall not cause or permit the use of any motor vehicle for any business purposes in connection with the Works unless adequate third party insurance cover is in force in respect of such user. The Contractor will at all times keep the Client/Company indemnified against any liability (whether in respect of any insured risk or otherwise) incurred by the Client/Company or arising otherwise in connection with the use of any motor vehicle for any such purpose.

5.2 Contractor shall endeavour to notify Company in the event they are required to work offshore, in order to ensure full insurance compliance

4.0 Payment

4.1 Contractor shall complete timesheets and expense claim forms (where applicable) and submit to Client Representative for approval.

We advise that all timesheets and expenses are due in accordance with the attached payroll schedule.

Expense claim forms must be supported by original receipts.

4.2 Should Client dispute any invoice from Company relating to Contractor's payment which results in Client deducting monies from Company, Company shall deduct the equivalent from Contractor's next payment.

4.3 No payment shall be made by Company to Contractor when absent from work for any reason whatsoever. Only time actually worked by Contractor on the authorised business of client shall be reimbursable.

5.0 Taxation

Unless otherwise stated under Exhibit A, Company may at all times during the continuance of the Services make all such deductions of or on account of income tax, social taxes and such other taxes, contributions, levies or imposts as may from time to time be deductible by or due from the Contract in respect of or in connection with the monies paid by the Company to Contractor.

6.0 Termination

6.1 Company may, at any time, with or without cause, terminate this contract, by giving five (5) Days' written notice to Contractor specifying the date of termination (hereafter referred to as the "Termination Date").

6.2 Regardless of the basis for termination, on the Termination Date, Contractor shall discontinue the Work and comply with the applicable provisions of this Article and any other applicable provisions of the Contract. Contractor shall preserve all work in progress and shall turn over the Work to Client in accordance with Client's instructions.

6.3 Upon termination as provided for in this Article, title to and possession of all permits, licenses, drawings, data, specifications, or other items acquired for Client will immediately thereon pass to and vest in Client.

6.4 Contractor shall not without the prior consent of the Company, for a period of twelve (12) months after the termination of their employment directly or indirectly and whether on their own behalf or on behalf of any other business concern, person, partnership, firm, company or other body, be engaged, concerned or interested in any capacity, in the Client or in any other business which is wholly or partly connected to the project where assigned by the Company under this agreement.

7.0 Medical Policy

7.1 Contractor warrants that they are medically fit to perform the Services.

7.2 Contractor shall complete and sign the attached medical form and return to Company. Failure to do so may constitute as a material breach of this contract and as a result Company may remove Contractor from the area of operations.

7.3 It is the Contractor's responsibility to notify Company should they be required to travel on business outside the USA, in order for the Company to cover them under their emergency medical policy.

7.4 Contractor must ensure that they are medically fit to work on overseas assignments and provide Company with a medical certificate of fitness, prior to undertaking a business trip.

7.5 All costs associated in obtaining the appropriate medical examination must be borne by Contractor.

8.0 Independent Contractor

In the performance of the Work, Contractor is an independent contractor, shall control the performance of the details of the Work, and shall be responsible for the results as well as responsible for ensuring that the performance of the Work is conducted in a manner consistent with appropriate safety, health, and environmental considerations, including, but not limited to, Client's policies thereon. The Work may be supplemented by instructions from Client's representative(s), and Client reserves the rights of observation and inspection to secure satisfactory completion of Work.

9.0 Confidentiality

9.1 Contractor agrees that Client Background Information (as defined in Section 14.1), Developed Information (as defined in Section 14.2), and any other technical or business information (hereinafter "Client Confidential Information") that is disclosed to Contractor in connection with any Work hereunder by Client, either orally or in writing, is to be treated as confidential and proprietary. Contractor agrees that Client Confidential Information will be maintained in strict confidence and not used or disclosed to Third Parties other than in performing Work for Client. The requirement to maintain information in strict confidence, however, shall not apply to Client Confidential Information that: (i) is or becomes generally available to the public through no wrongful act of Contractor; (ii) was in the possession of Contractor prior to the time it was acquired hereunder and was not acquired, directly or indirectly, from Client or its Affiliates or from others under an obligation of confidentiality; (iii) is independently made available as a matter of right to Contractor by a Third Party without obligations of confidentiality, provided that such Third Party did not acquire such information directly or indirectly from Client or its Affiliates; or (iv) is required by law to be divulged, provided that Contractor must notify Client prior to any disclosure, and must assist Client in minimizing the extent of disclosure.

9.2 Contractor acknowledges and agrees that Client, in its sole discretion, may deliver and/or store Client Confidential Information in digital form on the Internet, extranets and/or through public networks and service providers. Such digital information will be stored on internal or external computers and accessed from public telecommunications networks, and will be accessible by a controlled group of Persons (the "Controlled Group"). Contractor agrees that the delivery and storage of such Client Confidential Information in this manner must not be deemed as making the information generally available to the public, even if such Client Confidential Information is accessed by Persons who are not within the Controlled Group.

9.3 Contractor must not disclose Client Confidential Information to any Third Party or use it or any part thereof except in the performance of the Work. Contractor must not make nor permit the making of any copies, abstracts, derivatives, or summaries of any Client Confidential Information, except in the performance of the Work. Upon completion of Work for Client, or at Client's request, Contractor must return all Client Confidential Information (including, but not limited to, all copies, abstracts, derivatives, and summaries).

9.4 No press release or other public announcement or public disclosure having or containing any reference, either directly or by implication, to this Contract or the transactions herein contemplated, or to Client or any other Persons of Client Group, will be made or used by Contractor or on its behalf, unless the same has been Approved by an authorized officer of Client. This prohibition specifically includes, but is not limited to, any public release (either through print or broadcast news media), any articles prepared for internal or external publication, technical papers, and discussions with journalists or other Third Parties.

10.0 Force Majeure

Except as may be specifically otherwise provided in this Contract, neither Party shall be liable for delays in performance or for non-performance directly occasioned or caused by Force Majeure. Should conditions in the location where the Work is performed, in the reasonable opinion of Company, become such that continuance of the Work would be unduly hazardous, Company may suspend the Work and such suspension will be considered Force Majeure. Inability of either Party to secure funds will not be regarded as Force Majeure. Upon the occurrence of Force Majeure, the Party affected shall give immediate notice thereof to the other Party and shall, at its cost and expense, do all things reasonably possible to remove or mitigate its effects

11.0 Suspension

11.1 Company shall have the right to suspend all or any part of the Work at any time and at its sole discretion by giving written notice of suspension to Contractor.

11.2 Upon termination of any such suspension, Contractor shall immediately re-commence the Work under the terms and conditions of this Contract with the same labor and resources as were previously employed on the Work.

12.0 Compliance with Laws

12.1 Company warrants that Contractors are familiar with and knowledgeable about all relevant laws, rules regulations, decrees, federal, state and local, which are now or may become applicable to the Contract and any Work performed in connection herewith, including without limitation, those pertaining to immigration, health, safety, security, and environmental protection (hereinafter sometimes referred to as the "Laws") and Contractor warrants that in conducting the Work hereunder it will comply with all such Laws.

12.2 Contractor shall not pay any fee, commission, rebate, or other value to or for the benefit of any governmental official having jurisdiction over the Work Site, if such payment would be inconsistent with or penalized by the laws and regulations of the United States.

12.3 Contractor agrees to Indemnify Company Group from and against any Claims/Losses resulting from Contractor's failure to comply with all applicable Laws.

12.4 If any portion of the Work will occur on the Outer Continental Shelf, then Company shall supply individuals who are authorized under the laws of the United States to perform the Work. Any individual who lacks such authorization will not be allowed to take part in the portion of the Work that occurs on the Outer Continental Shelf.

13.0 Intellectual Property and Indemnification

13.1 Background Information. "Information" means any information embodied in any tangible form including, but not limited to, a work of authorship, a process diagram, a drawing, a blueprint, a model, a specification, a report, a manuscript, a document, a manual, a photograph, a database, a computer program, a design for an apparatus or process or system, working notes, a plan, or a model. "Contractor Background Information" means any Information that was created by or for Contractor prior to making this Contract that is directly related to the Work, and Information that was made at no expense to Client. "Client Background Information" means any Information that was created by or for Client prior to making this Contract, and Information that is directly related to the Work. All Client Background Infonmation is Client's property, must not be used by Contractor for any purpose except for the performance of the Work, and must be returned to Client at the completion of the Work or upon Client's request. All IP Rights (defined in Section 13.3) in Client Background Information remains the property of Client. All IP Rights in Contractor Background Information remains the property of Contractor. Each Party hereby grants to the other Party a non-exclusive, irrevocable, worldwide, royalty-free right and license to use and to copy its Background Information solely in connection with and for the performance of the Work.

13.2 Tangible Personal Property. "Developed Information" means all Information that is embodied in any tangible form and that is created by Contractor for Client in performance of the Work. Client owns all right, title, and interest in and to Developed Information. Ownership of Developed Information does not include ownership of any Contractor Background Information that may be embedded in the Developed Information. Developed Information must be clearly marked by Contractor as Client's property. Unless clearly and unequivocally stated otherwise in writing and expressly agreed to by Client, Contractor must furnish to Client at least one (1) tangible copy of Developed Information, or any part thereof upon request by Client, and at least one (1) tangible copy of Developed Information upon completion of the Work. If requested by Client, appropriate portions of such Developed Information will be furnished in electronic format.

13.3 Intangible Personal Property. "Intellectual Property Rights" ("IPR" or "IP Rights") means copyrights, patents, trade secrets, and other intellectual property rights. "Underlying Contractor IP Rights" means IP Rights that are owned by or licensed to Contractor, and that cover Contractor Background Information embedded in the Developed Information (or any part thereof). With the exception of Underlying Contractor IP Rights, all IP Rights in and covering the Developed Information and created by Contractor hereunder vest solely in Client ("Client IPR"); provided, however, that Client hereby grants to Contractor a non-exclusive, non-transferable, worldwide, royalty-free right and license under such Client IPR to use such Developed Information only for the benefit of Client. IP Rights in the form of trade secrets will be disclosed to the other Party only to the extent necessary and only for the purpose of performing the Work.

13.4 Copyrights. With the exception of any Underlying Contractor IP Rights, all Developed Information in the form of original works of authorship which are fixed in any tangible form and created by or on behalf of Contractor hereunder (hereinafter collectively referred to as "Creative Materials") and which are covered by the definition of "work for hire" under 17-U.S.C. 101 of the U.S. Copyright Act of 1976, are considered a "work for hire," and Client is the owner of all copyrights in any such works. As to any such Creative Materials created for Client which are not covered under the aforementioned "work for hire" definition of the Copyright Act, such that Contractor is regarded as the copyright author and owner, Contractor agrees to assign and hereby assigns all such copyright ownership in the Creative Materials to Client. Any copyright notice displayed on the Creative Materials must be in Client's name and not in Contractor's name. Contractor agrees to execute and deliver to Client any required documents and do all acts necessary to perfect Client's entire right, title, and interest in the Creative Materials. Client has the right to photograph, reproduce, copy, duplicate, modify, and make any use of Developed Information under any copyrights or equivalent rights held by Contractor.

13.5 Inventions. Contractor hereby assigns, conveys, and transfers to Client (and must require its employees, agents, representatives, and subcontractors to assign, convey, and transfer to Client), without further consideration, each and every invention, discovery, or improvement that is made, conceived, or developed by Contractor or such others as a direct result of performing the Work. Contractor must promptly notify Client whenever an invention, discovery, or improvement is made, conceived, or developed. Upon Client's request, Contractor must execute any required documents and do all acts necessary to perfect Client's entire right, title, and interest in such inventions, discoveries, and improvements. Client has sole responsibility for the preparation, filing, and prosecution of all applications for Letters Patent and will bear all costs and expenses in connection therewith. Client is under no obligation to file any patent application, secure any patent, or maintain any patent in force.

13.6 Covenants. Contractor represents that it has not and will not breach or infringe any IP Rights of any Third Party in performance of the Work. Contractor must inform Client if Contractor requires any license or similar right under a Third Party's IP Rights, or the performance of the Work requires the payment of any royalty or similar fee by or for Client. Contractor agrees to Indemnify Client Group from any Claim/Loss which may be brought against any member of Client Group at any time for breach of contract or infringement of any IP Rights allegedly relating to the performance of any Work hereunder; provided, however, that Client promptly notifies Contractor in writing of the institution of such action or suit and permits Contractor to control its Defense. Contractor must Indemnify Client Group from any damages or other sums awarded or assessed in any such action or suit. Any settlements thereon must be Approved by Client. Client may be represented by counsel of its own selection at its own expense, and agrees to cooperate fully in the Defense of any such action or suit.

13.7 Client Rights. Unless clearly and unequivocally stated otherwise and expressly agreed to by Client in writing, if the Work includes, but is not limited to, engineering or professional services, technical assistance or consultation, or authoring or creating a design or a plan for equipment, hardware, software, apparatus, process, and/or system, and if the Contractor will not make, not build, not construct, or not obtain for Client such equipment, hardware, software, apparatus, process, or system, Contractor grants to Client Group and/or will obtain for Client Group, a royalty free, paid-up, non-exclusive, irrevocable, world-wide license and right: (i) to own and have possession of all forms of such design or plan; (ii) to copy and make derivatives of such design or plan; (iii) to use such design or plan; (iv) to make all such equipment, hardware, software, apparatus, process, and/or system from such design or plan; (v) to import, use, install, test, commission, operate, maintain, alter, repair, rebuild, retrofit, convert, and decommission such equipment, hardware, software, apparatus, process, and/or system without limitation; (vi) to sell, offer for sale, donate, lease, sublease, and rent such equipment, hardware, software, apparatus, process, and/or system; and (vii) to assign and transfer any or all of such rights without limitation.

Contractor agrees that if Contractor cannot grant to Client the rights to do all the things described in this Section 13.7, it will obtain such rights at no cost to Client.

14.0 Applicable Law

14.1 This Contract may govern Work furnished by Contractor to Company in several different jurisdictions. With respect to the selection of governing law in this Article, the Parties stipulate that certainty of enforcement is an important expectation negotiated between the Parties in entering this Contract.

14.2 To the maximum extent permissible, this Contract, and any action Connected With this Contract brought by either Party (and any action brought by any member of Company Group or Client Group or any Third Party asserting a third party beneficiary claim pursuant to this Contract) shall be governed by the laws of the State of Colorado.

14.3 In the event Colorado law is held to be inapplicable by a court of competent jurisdiction, the laws of the state where the Work is performed hereunder shall apply unless application of such law to a particular provision would prevent enforcement of such provision, in which case the law applicable to such provision shall be any potentially applicable law that would allow enforcement of said provision as written.

15.0 Code of Conduct

In connection with Contractor's performance of this Contract, Contractor agrees to act consistently with the BP Code of Conduct (www.bp.com) and to adhere to the principles set out therein, including our principles of non-retaliation against "whistle blowers." Any failure to do so by Contractor shall be deemed a material breach of this Contract.

E-mail 23 of 61

Unknown

From: Kelly Owrey [kowrey@swift-houston.com]
Sent: Tuesday, February 10, 2009 10:15 AM
To: 'Kenneth Abbott'; Paul.Egner@bp.com
Subject: RE: Ken Abbott's Employment contract

All,

We will look into this and revert back to you both as soon as possible.

Thanks,

Kelly Owrey

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Tuesday, February 10, 2009 9:21 AM
To: Paul.Egner@bp.com
Cc: 'Kelly Owrey'
Subject: Ken Abbott's Employment contract

Paul – This is to advise that I was discharged today. Since you are the Sourcing contract administrator for BP Atlantis, I am writing to inform you of a breach of my employment contract by BP. Because the contract was breached by Bill Naseman of BP, and as per the Texas payday law, I am requesting full payment of the approximately 18 months remaining on my 2 year contract within six days of my last day on the payroll (2/10/09). The specifics of the breach are detailed below. I have also attached my signed contract for your review.

Kelly – By copy of this email, I am also requesting that you enforce this contract and act to resolve this breach as the contracts administrator for Swift.

- I originally signed a two year contract with BP. During the week of 1/6/09, I discovered that the material terms of that contract had been illegally changed by Bill Naseman. He reduced the term of the contract to six months with a new completion date of 2/27/09, without my agreement or signature to the contract. During the week of 1/6/09, I received an email from the BP computer system admin, advising me that my contract end date was now 2/27/09 and I would need to get authorization to renew the end date or my access to the system would be denied on that date. I emailed and called Bill Naseman to find out what was going on during that week and got no answer. On 2/4/09, as per the BP ombudsman Billie Garde, in a meeting with Naseman and Simon Todd to discuss my retaliatory discharge, Simon Todd told the ombudsman that my contract end date was 2/27/09 instead of the original 8/18/2010.
- Since my termination was a retaliatory discharge by Naseman, (and there is substantial evidence that it was retaliation) the contract has also been violated and BP is in breach, because the contract calls for no retaliatory behavior, and because the dismissal violated US employment laws. Naseman terminated me in retaliation for my trying to resolve Becky Cavailer's complaint to me of harassment and discrimination by Alan Clark.

E-mail 24 of 61

Unknown

From: Kenneth Abbott [kwabbott@comcast.net]
Sent: Wednesday, February 11, 2009 12:44 PM
To: 'kwabbott@comcast.net'
Subject: FW: Requested Documents - aditional comments by Abbott
Attachments: BP 5 Senior Cost Engineer (Job 59629) 2-9-09.htm; abbott chronology1.doc

Pasha – I have updated this chronology of events with some additional comments of mine in blue text. I have also attached a Rigzone employment ad for a Senior Cost Engineer which I believe to be for a new cost engineer job need by Naseman for the topsides Phase 2 Atlantis work. I should have been considered for this job since I was on the Atlantis Project and qualified.

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Friday, February 06, 2009 3:14 AM
To: 'pasha.eatedali@ombudsmanecp.com'
Cc: 'Kerri Walsh'
Subject: FW: Requested Documents - Abbott

Pasha – attached is the Chronology of events regarding my claim of retaliatory discharge and contract breach by BP's Bill Naseman. I have added my comments in red. Thanks for investigating these complaints for me. The yellow highlights are your comments. While I want to resolve these issues within the company if possible, I will need a final response from BP by Friday, 2/20/09. I will hold off on going to the EEOC until that time in hopes of a resolution. If this timing does not work for you, please advise.

Kerri – I have enclosed a copy of this complaint summary for your review. Please note the last two paragraphs which summarize my breach of contract complaint. I would appreciate your pursuing the resolution of this breach by BP on my behalf as my contracting company. Thanks for your help Kerri.

From: Pasha Eatedali [mailto:pasha.eatedali@ombudsmanecp.com]
Sent: Thursday, February 05, 2009 4:05 PM
To: Kenneth Abbott
Subject: RE: Requested Documents - Abbott

Ken,

Please review the attached document for factual verification…

Pasha Eatedali
Office of The Ombudsman
1300 Eye Street, NW
Suite 900
Washington, DC 20005
Phone: 202-682-7262
Email: pasha.eatedali@ombudsmanecp.com

The information contained in this
email message is intended only for use of the individual or entity
named above. If the reader of this message is not the intended
recipient, or the employee or agent responsible to deliver it to
the intended recipient, you are hereby notified that any
dissemination, distribution or copying of this communication is
strictly prohibited. If you have received this communication in
error, please immediately notify us by email
and destroy the original message. Thank you.

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Thursday, February 05, 2009 3:29 PM
To: Pasha Eatedali
Subject: FW: Requested Documents - Abbott

Pashda – attached are the items you requested...

From: jobs@rigzone.com [jobs@rigzonemail.com]
Sent: Saturday, February 07, 2009 8:20 PM
To: kwabbott@comcast.net
Subject: Senior Cost Engineer (Job 59629)

Don't miss an opportunity. Add Rigzone to your Address Book. Learn how.

Forward This Newsletter

RIGZONE

JOB NOTIFICATION

FOR OIL & GAS INDUSTRY CAREERS WORLDWIDE

A new job posted on Rigzone.com seems to match your skills and experience found within your resume. Please take a look at the information about this job opportunity below. If you would like to apply for this position, please click the link at the bottom of this email.

SENIOR COST ENGINEER

apply for this job now

Job Requirements:

Company Name:	Swift Technical Services
Job Category:	Management/Support
Education Level:	Bachelors/3-5 yr Degree
Req'd Experience:	15+ years
Desired Expertise:	Budget Planning Analyst / Cost Control
Proposed Salary:	TBD
Country:	United States
Location:	Houston

Job Description:

Major Oil & Gas operator looking to fill a position for a Sr. Cost Engineer with SAP experience in Houston, TX.

To apply for this position:

http://www.rigzone.com/jobs/job_posting.asp?p_id=59629

Member Services

This email was sent to kwabbott@comcast.net.

You are being sent this email because your resume is active on the Rigzone Career Center and you are subscribed to receive notifications of jobs that match your resume. If you prefer not to receive these emails, please deactivate your resume or opt-out of these notification emails by visiting your Career Center on Rigzone at:

http://www.rigzone.com/jobs/candidate_home.asp

Comments and Questions

If you have any questions about our job notification service, please send an email to jobs@rigzone.com or contact us at: 5870 Highway 6 North | Suite 107 | Houston, TX 77084

2009-005 (Abbott and Atlantis) Chronology and Abbott's Retaliatory Discharge and BP Breach of Contract Complaint

- **July 21, 2008**
  - Kenneth Abbott has his services contracted by Swift Technical (contractor) to BP America with a start date of August 18, 2008 and an ending date of 2010
  - Position is Subsea Projects Services Leader
  - Letter and signed contract sent by Kerri Walsh who is Business Development Manager for Swift Technical
  - Abbott leaves GE full time employee payroll and joins BP for a two year contract and a promise of temp to perm placement within BP in 6 months by Bill Naseman. In October 2008 Naseman confirms to Abbott that he will be made a permanent BP employee by January 2009. Naseman violated truth in hiring laws by promising long term employment and temp to perm and enducing Abbott to leave his old job and then dismissing him after only 51/2 months for retaliatory reasons.

- **December 23, 2008**
  - *9:00 AM* - Mr. Abbott alleges that one of his employees (Becky Cavalier a Cost Analyst from a Turner & Townsend) approaches him about being harassed and discriminated against by Alan Clark (Cost Engineer from Clover)
  - *10:00 AM* – Mr. Abbott approaches Mr. Clark regarding the concerns raised to him. He alerts Mr. Clark that he needs to improve his communications with Ms. Cavalier. Mr. Clark requested that Ms. Cavalier be terminated because she was "no good." (he also called her a SILLY OLD SOW, and Mr. Abbott reminded him that was discrimination. Mr. Abbott replied that he had only heard good things about her and that firing her would not be the solution, which resulted in Mr. Clark becoming angry…Mr. Abbott reminded him that everyone had to "work together in order to get the job done." Clark then told Abbott to fuck off and leave his office, which was insubordinate.
  - *10:30 AM* – Mr. Abbott is approached by Mr. Clark asking him to sign his timesheet. After which Mr. Clark left his office announcing that Mr. Abbott had just fired him. Mr. Abbott expressed that at no point did he tell Mr. Clark that he was terminated.
  - *11:00 AM* – Mr. Clark dropped his key off to the admin for Atlantis (Necie Kelley) and alerted her that he was leaving. Mr. Abbott left Mr. Clark a cell phone message asking him to call him to resolve the issues. Later that day, Abbott phones Naseman at home (he is on 2 week Xmas break) to brief him on the departure of Clark, and Naseman tells Abbott that Alan has done this same kind of hostile departure on two other BP jobs previously, and the last job before this one he left without any notice after an argument with his supervisor and then tried to come back three days later, and the supervisor

Confidential

refused. My question is why did BP leave this guy in place knowing he is a ticking time bomb? Mike Price, PE on Atlantis and Doug McGregor, cost engineer on Atlantis, also independently confirmed to Abbott the hostile behavior of Alan to other employees, and Mike Mills, his ex supervisor for Turner and Townsend also said he had Turner scared of him and was always blowing up over nothing.

- **Sometime after Mr. Clark left (Between Dec. 23 – Jan. 12, 2009)**
  - Mr. Abbott believes that shortly after Mr. Clark left the company he wrote an email to John Schwebel (Project Director – BP) and from what he has heard secondhand, the email is very critical of Mr. Abbott → and blaming Mr. Abbott for the events that transpired, and also accusing Becky Cavalier of causing his firing, and that she was the problem, not him. The email was apparently then distributed amongst project management and engineering leads on Atlantis, including Benny Kirkham and Mr. Naseman. Mr. Abbott has told by Naseman that he will not give him a copy of the email to review and respond to. Schwebel told Abbott that Alan did a good job and that Becky Cavalier and all others in the cost group were incompetent. Benny made discriminatory statements against Becky Cavalier and said not to hitch my wagon to her. Other Atlantis team cost engineers supported Becky. Doug McGregor said that Alan had been continually harassing and humiliating her for the past few months.
  - During the week of 1/6/09, Ken Abbott received an email BP system alert that his system access was going to expire soon, and that he needed to get it reauthorized by his supervisor, and that his contract expire date was 2/27/09. Abbott sent an email to Naseman requesting the reauthorization and asking why the system showed his contract ending in 6 months instead of 24, and he received no reply. Finally, Abbott called Naseman re the email, and Naseman said they would discuss it at the 1/12/09 meeting (Naseman said he was not ready to discuss it yet after the 1/12/09 meeting). This is very good evidence the contract expire date was moved up by Naseman, based on his decision to terminate Abbott in retaliation for his trying to protect the rights of Becky Cavalier to not be harassed and discriminated against.

- **January 12, 2009**
  - Mr. Abbott alleges that Bill Naseman (BP Project Services Mgr for Atlantis) calls him into his office and blames Mr. Abbott for all of the events that had transpired with Mr. Clark. Mr. Naseman alerted Mr. Abbott that he did not follow the BP manager guidelines and that they would start having monthly meetings to work on his management skills and that Mr. Abbott should have spoken to Mr. Naseman before confronting Mr. Clark, and that only Naseman should discuss this with Clark, although Abbott had never been told these Naseman rules previously, and although BP put him in a supervisory role over five people. Abbott has previously had nothing but good reports on his performance from his project director Bill Broman and Naseman. Abbott had been also told by Naseman in October 2008 that his contract position would

go to permanent BP staff status in early 2009, and when Abbott was hired in August 2008, Naseman told him that the position was a temp to perm position.

- **January 15, 2009**
  - Swift Oil and Gas posts an employment opportunity for the position of "Project Services Lead" for a "MAJOR operator" that calls for a contract person to work on a "long-term Gulf of Mexico project." Kerri Walsh of Swift tells Ken Abbott that the position was for the BP GOM Atlantis, and that Bill Naseman has interviewed two candidates for the position. This is obviously an ad for Abbott's replacement and a contract position. Also, Naseman told Abbott and Eddie Antoine and Sim Powell (all managers in Naseman's group) in a meeting on 1/12/09 that he was also seeking to hire a senior cost engineer contractor for the topsides group for the Phase 2 Atlantis work. Swift still has a job ad posted on Rigzone for this position. Why was Abbott not allowed to move into this position or even be considered for it?
    - *Raises questions as to whether BP planned on hiring another contract employee to replace Mr. Abbott – shortly after Mr. Naseman had confronted Mr. Abbott about the incident with Mr. Clark. This job posting is in direct contrast to the information BP provided the OoO regarding the Project Services Lead position.*

- **January 29-30, 2009**

  BP asserts that Bill Naseman, Bill Broman (Atlantis Subsea Delivery Manager), Dirk Smit (Atlantis Phase 2 Delivery Manager), and Simon Todd (VP Atlantis) discussed whether the company could reduce costs by combining two Project Services Lead into one BP PSL position held by Simm Powell (who had just replaced the other Project Services Lead – Mike Mills (contractor). From the evidence above, it is clear that Bill Naseman's decision to retaliate against Ken Abbot was made sometime during the first two weeks of January 2009 or earlier, and that the real reason for Abbott's termination was retaliation.
- **January 30, 2009**
  - BP asserts that Bill Naseman, Project Services Manager for Atlantis decides that Ken Abbott's position should be eliminated.

- **February 3, 2009**
  - Mr. Abbott is told that his contract is being terminated early, and that his final day would be February 9th.
  - 4:00 PM EST – Mr. Abbott brings his concern regarding his retaliatory discharge to OoO
  - 4:30-4:50 PM EST – Mr. Abbott asserted he was to have a meeting with BP HR, his contractor manager, and Naseman to discuss his termination. Instead he was approached by Bill Naseman and Greg Farnham (BP Atlantis HR) and was told that it was best that he pack his things and leave the premises, rather than waiting till Friday because of all the allegations he had raised, and all that had transpired that day. Bill Naseman stated when he came to Abbott's office with Farnham that he was let go for lack of work (as did Kerri Walsh in her

call to Abbott telling me about the dismissal earlier that day). The evidence shows this was false. On 1/29/08 at Naseman's biweekly staff meeting, he reviewed slides from Simon Todd's leadership team that showed BP GOM planned to hire 200 new staff during 2009 and there were no layoffs planned in the GOM production group. Eddie Antoine, John Vernor, and Mike Mills all heard this "no layoffs" pledge and we were encouraged to spread the word among our staff to reassure everyone. In fact, during the last two weeks of 12/08, the VP of GOM held a town hall for the entire GOM production team and said that we were hiring for 2009, and no layoffs were planned.

I must tell you how much this illegal termination has bothered me, because not only was there a false reason for dismissal, but more importantly, it was hard to have a personal attack on my management and professional skills as a result of standing up for an employee who was being harassed. As soon as Bill Naseman returned from his Christmas holiday on app.1/6/09, he started this retaliation against Ken Abbott.

- **Abbott's Concluding Remarks:**

Ken Abbott has been harassed and retaliated against by being terminated because he did the right thing for BP as a supervisor and stood up for a female employee who had accused Alan Clark of harassment. His effort to resolve the issue probably helped BP avoid a discrimination/harassment lawsuit by Becky Cavalier. No one has even bothered to interview Becky Cavalier (except Ken Abbott). Instead of interviewing Becky and the entire team and conducting a proper investigation, Naseman chose to falsely blame Ken Abbott based on the input of two employees (John Schwebel and Benny Kirkham) who wanted to cover up for Alan, and being angry he left, wanted to falsely blame and punish Ken Abbott and Becky Cavalier. Abbott also believes that Bill Naseman was negligent in not telling Abbott about Clark's severe communication problems, and in bringing Clark into the group, to be inherited by Mr. Abbott, when Alan's hot tempered and insubordinate history at BP was well known and documented. The passing around of defamatory email from Alan Clark by BP employees Schwebel and Naseman and contractor Benny Kirkham on the Atlantis Project without any chance for Abbott to see it or to defend his reputation was also inexcusable and damaged his reputation tremendously.

Not only is Naseman guilty of retaliation against Abbott, but Alan Clark is also guilty of retaliation against both Becky Cavalier and Abbott, since Clark was still a BP contract employee when he sent the retaliatory email mentioned in the paragraph above to John Schwebel (Schwebel was not his supervisor). BP did not terminate him until 12/30/08 after waiting a week after his departure on 12/23/08, to give him time to reconsider his departure from the company.

There is also the matter of Naseman's illegally changing the terms of Abbott's employment contract by moving the end date from August 18, 2010 back to February 27, 2009 without getting Abbott's consent. This is breach of contract and could result in civil/criminal penalties to BP and full payment to Abbott of the two year contract term. There is substantial evidence of the fraud by Naseman. The BP computer system notice

Confidential

emails to Abbott and emails to Naseman from Abbott show the contract end date was revised to 2/27/09. Also, as reported to Abbott by the Ombudsman, on Wednesday 2/4/09, the VP of Atlantis project Simon Todd and Naseman and the ombudsman met to discuss Abbott's termination and Simon Todd stated that Abbott's contract end date was 2/27/09.

I think BP is overall a good place to work, and I would like to see this illegal termination and breach of contract resolved within the company, and my employment reinstated somewhere within BP. If that cannot be achieved, then full payment of my remaining contract term would be fair.

E-mail 25 of 61

Unknown

From: Kenneth Abbott [kwabbott@comcast.net]
Sent: Saturday, February 14, 2009 12:34 AM
To: 'kowrey@swift-houston.com'
Subject: FW: Your investigation/Corrective Measures re my complaints of retaliatory discharge and breach of contract by BP
Attachments: abbott chronology1.doc

Kelly – please note that ('pasha.eatedali@ombudsmanecp.com') is the ombudsman investigating my complaints for BP and has the same information I have sent you.

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Saturday, February 14, 2009 12:20 AM
To: 'kowrey@swift-houston.com'
Subject: FW: Your investigation/Corrective Measures re my complaints of retaliatory discharge and breach of contract by BP

Kelly – I am resending this because the previous email had some format errors...

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Saturday, February 14, 2009 12:13 AM
To: 'kowrey@swift-houston.com'
Subject: Your investigation/Corrective Measures re my complaints of retaliatory discharge and breach of contract by BP

Kelly - do you have any feedback for me yet regarding my complaint t
Walsh regarding the retaliatory discharge and breach of contract by
also attached the detailed description of my charges given to BP and
(with some update information). Note the comments in yellow highligh
BP Ombudsman. Also, attached below is the EEOC guidance on the need
staffing firm (same as required by the client) when discrimination/r
are made to them. I would like to make sure these actions are being
by Swift.

EEOC Guidance on Staffing Firms responsibility to respond to a compl

Staffing Firm: The firm is liable if it participates in the client's discrimination. For example, if the firm honors its client's request to remove a worker from a job assignment for a discriminatory reason and replace him or her with an individual outside the worker's protected class, the firm is liable for the discriminatory discharge. The firm also is liable if it knew or should have known about the client's discrimination and failed to undertake prompt corrective measures within its control.33

The adequacy of corrective measures taken by a staffing firm depends on the particular facts. Corrective measures may include, but are not

limited to: 1) ensuring that the client is aware of the alleged misconduct; 2) asserting the firm's commitment to protect its workers from unlawful harassment and other forms of prohibited discrimination; 3) insisting that prompt investigative and corrective measures be undertaken; and 4) affording the worker an opportunity, if (s)he so desires, to take a different job assignment at the same rate of pay. The staffing firm should not assign other workers to that work site unless the client has undertaken the necessary corrective and preventive measures to ensure that the discrimination will not recur. Otherwise, the staffing firm will be liable along with the client if a worker later assigned to that client is subjected to similar misconduct.34

From: Kelly Owrey [mailto:kowrey@swift-houston.com]
Sent: Tuesday, February 10, 2009 10:15 AM
To: 'Kenneth Abbott'; Paul.Egner@bp.com
Subject: RE: Ken Abbott's Employment contract

All,

We will look into this and revert back to you both as soon as possible.

Thanks,

Kelly Owrey

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Tuesday, February 10, 2009 9:21 AM
To: Paul.Egner@bp.com
Cc: 'Kelly Owrey'
Subject: Ken Abbott's Employment contract

Paul – This is to advise that I was discharged today. Since you are the Sourcing contract administrator for BP Atlantis, I am writing to inform you of a breach of my employment contract by BP. Because the contract was breached by Bill Naseman of BP, and as per the Texas payday law, I am requesting full payment of the approximately 18 months remaining on my 2 year contract within six days of my last day on the payroll (2/10/09). The specifics of the breach are detailed below. I have also attached my signed contract for your review.

Kelly – By copy of this email, I am also requesting that you enforce this contract and act to resolve this breach as the contracts administrator for Swift.

- I originally signed a two year contract with BP. During the week of 1/6/09, I discovered that the material terms of that contract had been illegally changed by Bill Naseman. He reduced the term of the contract to six months with a new completion date of 2/27/09, without my agreement or signature to the contract. During the week of 1/6/09, I received an email from the BP computer system admin, advising me that my contract end date was now 2/27/09 and I would need to get authorization to renew the end date or my access to the system would be denied on that date. I emailed and called Bill Naseman to find out what was going on during that week and got no answer. On 2/4/09, as per the BP ombudsman Billie Garde, in a meeting with Naseman and Simon

Todd to discuss my retaliatory discharge, Simon Todd told the ombudsman that my contract end date was 2/27/09 instead of the original 8/18/2010.

- Since my termination was a retaliatory discharge by Naseman, (and there is substantial evidence that it was retaliation) the contract has also been violated and BP is in breach, because the contract calls for no retaliatory behavior, and because the dismissal violated US employment laws. Naseman terminated me in retaliation for my trying to resolve Becky Cavailer's complaint to me of harassment and discrimination by Alan Clark.

2009-005 (Abbott and Atlantis) Chronology and Abbott's Retaliatory Discharge and BP Breach of Contract Complaint

- **July 21, 2008**
  - Kenneth Abbott has his services contracted by Swift Technical (contractor) to BP America with a start date of August 18, 2008 and an ending date of 2010
  - Position is Subsea Projects Services Leader
  - Letter and signed contract sent by Kerri Walsh who is Business Development Manager for Swift Technical
  - Abbott leaves GE full time employee payroll and joins BP for a two year contract and a promise of temp to perm placement within BP in 6 months by Bill Naseman. In October 2008 Naseman confirms to Abbott that he will be made a permanent BP employee by January 2009. Naseman violated truth in hiring laws by promising long term employment and temp to perm and enducing Abbott to leave his old job and then dismissing him after only 51/2 months for retaliatory reasons. Also, when Naseman changed the contract term from 2 years to 6 months without Abbott's approval, he committed fraud. These violations by Naseman of truth in hiring and contract fraud are also violation of the Rico Act.

- **December 23, 2008**
  - *9:00 AM* - Mr. Abbott alleges that one of his employees (Becky Cavalier a Cost Analyst from a Turner & Townsend) approaches him about being harassed and discriminated against by Alan Clark (Cost Engineer from Clover)
  - *10:00 AM* – Mr. Abbott approaches Mr. Clark regarding the concerns raised to him. He alerts Mr. Clark that he needs to improve his communications with Ms. Cavalier. Mr. Clark requested that Ms. Cavalier be terminated because she was "no good." (he also called her a SILLY OLD SOW, and Mr. Abbott reminded him that was discrimination. Mr. Abbott replied that he had only heard good things about her and that firing her would not be the solution, which resulted in Mr. Clark becoming angry…Mr. Abbott reminded him that everyone had to "work together in order to get the job done." Clark then told Abbott to fuck off and leave his office, which was insubordinate.
  - *10:30 AM* – Mr. Abbott is approached by Mr. Clark asking him to sign his timesheet. After which Mr. Clark left his office announcing that Mr. Abbott had just fired him. Mr. Abbott expressed that at no point did he tell Mr. Clark that he was terminated.
  - *11:00 AM* – Mr. Clark dropped his key off to the admin for Atlantis (Necie Kelley) and alerted her that he was leaving. Mr. Abbott left Mr. Clark a cell phone message asking him to call him to resolve the issues. Later that day, Abbott phones Naseman at home (he is on 2 week Xmas break) to brief him on the departure of Clark, and Naseman tells Abbott that Alan has done this

Confidential

same kind of hostile departure on two other BP jobs previously, and the last job before this one he left without any notice after an argument with his supervisor and then tried to come back three days later, and the supervisor refused. My question is why did BP leave this guy in place knowing he is a ticking time bomb? Mike Price, PE on Atlantis and Doug McGregor, cost engineer on Atlantis, also independently confirmed to Abbott the hostile behavior of Alan to other employees, and Mike Mills, his ex supervisor for Turner and Townsend also said he had Turner scared of him and was always blowing up over nothing.

- **Sometime after Mr. Clark left (Between Dec. 23 – Jan. 12, 2009)**
  - Mr. Abbott believes that shortly after Mr. Clark left the company he wrote an email to John Schwebel (Project Director – BP) and from what he has heard secondhand, the email is very critical of Mr. Abbott → and blaming Mr. Abbott for the events that transpired, and also accusing Becky Cavalier of causing his firing, and that she was the problem, not him. The email was apparently then distributed amongst project management and engineering leads on Atlantis, including Benny Kirkham and Mr. Naseman. Mr. Abbott has been told by Naseman that he will not give him a copy of the email to review and respond to. Schwebel told Abbott that Alan did a good job and that Becky Cavalier and all others in the cost group were incompetent. Benny made discriminatory statements against Becky Cavalier and said not to hitch my wagon to her. Other Atlantis team cost engineers supported Becky. Doug McGregor said that Alan had been continually harassing and humiliating her for the past few months.
  - During the week of 1/6/09, Ken Abbott received an email BP system alert that his system access was going to expire soon, and that he needed to get it reauthorized by his supervisor, and that his contract expire date was 2/27/09. Abbott sent an email to Naseman requesting the reauthorization and asking why the system showed his contract ending in 6 months instead of 24, and he received no reply. Finally, Abbott called Naseman re the email, and Naseman said they would discuss it at the 1/12/09 meeting (Naseman said he was not ready to discuss it yet after the 1/12/09 meeting). This is very good evidence the contract expire date was moved up by Naseman, based on his decision to terminate Abbott in retaliation for his trying to protect the rights of Becky Cavalier to not be harassed and discriminated against.

- **January 12, 2009**
  - Mr. Abbott alleges that Bill Naseman (BP Project Services Mgr for Atlantis) calls him into his office and blames Mr. Abbott for all of the events that had transpired with Mr. Clark. Mr. Naseman alerted Mr. Abbott that he did not follow the BP manager guidelines and that they would start having monthly meetings to work on his management skills and that Mr. Abbott should have spoken to Mr. Naseman before confronting Mr. Clark, and that only Naseman should discuss this with Clark, although Abbott had never been told these Naseman rules previously, and although BP put him in a supervisory role over

five people. Abbott has previously had nothing but good reports on his performance from his project director Bill Broman and Naseman. Abbott had been also told by Naseman in October 2008 that his contract position would go to permanent BP staff status in early 2009, and when Abbott was hired in August 2008, Naseman told him that the position was a temp to perm position.

- **January 15, 2009**
  - Swift Oil and Gas posts an employment opportunity for the position of "Project Services Lead" for a "MAJOR operator" that calls for a contract person to work on a "long-term Gulf of Mexico project." Kerri Walsh of Swift tells Ken Abbott that the position was for the BP GOM Atlantis, and that Bill Naseman has interviewed two candidates for the position. This is obviously an ad for Abbott's replacement and a contract position. Also, Naseman told Abbott and Eddie Antoine and Sim Powell (all managers in Naseman's group) in a meeting on 1/12/09 that he was also seeking to hire a senior cost engineer contractor for the topsides group for the Phase 2 Atlantis work. Why was Abbott not allowed to move into this position or even be considered for it?
    - *Raises questions as to whether BP planned on hiring another contract employee to replace Mr. Abbott – shortly after Mr. Naseman had confronted Mr. Abbott about the incident with Mr. Clark. This job posting is in direct contrast to the information BP provided the OoO regarding the Project Services Lead position.*

- **January 29-30, 2009**

  BP asserts that Bill Naseman, Bill Broman (Atlantis Subsea Delivery Manager), Dirk Smit (Atlantis Phase 2 Delivery Manager), and Simon Todd (VP Atlantis) discussed whether the company could reduce costs by combining two Project Services Lead into one BP PSL position held by Simm Powell (who had just replaced the other Project Services Lead – Mike Mills (contractor). From the evidence in the paragraphs above and below, it is clear that Bill Naseman's decision to terminate Abbott was not because of a reduction in staff due to lack of work as he contends. He terminated Abbott to retaliate against him, and Naseman made his decision to do so sometime during the first two weeks of January 2009.

- **January 30, 2009**
  - BP asserts that Bill Naseman, Project Services Manager for Atlantis decides that Ken Abbott's position should be eliminated.

- **February 3, 2009**
  - Mr. Abbott is told that his contract is being terminated early, and that his final day would be February 9th.
  - 4:00 PM EST – Mr. Abbott brings his concern regarding his retaliatory discharge to OoO
  - 4:30-4:50 PM EST – Mr. Abbott asserted he was to have a meeting with BP HR, his contractor manager, and Naseman to discuss his termination. Instead he was approached by Bill Naseman and Greg Farnham (BP Atlantis HR) and

GoGoConfidential

was told that it was best that he pack his things and leave the premises, rather than waiting till Friday because of all the allegations he had raised, and all that had transpired that day. Bill Naseman stated when he came to Abbott's office with Farnham that he was let go for lack of work (as did Kerri Walsh in her call to Abbott telling me about the dismissal earlier that day). The evidence shows this was false. On 1/29/08 at Naseman's biweekly staff meeting, he reviewed slides from Simon Todd's leadership team that showed BP GOM planned to hire 200 new staff during 2009 and there were no layoffs planned in the GOM production group. Eddie Antoine, John Vernor, and Mike Mills all heard this "no layoffs" pledge and we were encouraged to spread the word among our staff to reassure everyone. In fact, during the last two weeks of 12/08, the VP of GOM held a town hall for the entire GOM production team and said that we were hiring for 2009, and no layoffs were planned.

I must tell you how much this illegal termination has bothered me, because not only was there a false reason for dismissal, but more importantly, it was hard to have a personal attack on my management and professional skills as a result of standing up for an employee who was being harassed. As soon as Bill Naseman returned from his Christmas holiday on app.1/6/09, he started this retaliation against Ken Abbott.

- **Abbott's Concluding Remarks:**

Ken Abbott has been harassed and retaliated against by being terminated because he did the right thing for BP as a supervisor and stood up for a female employee who had accused Alan Clark of harassment. His effort to resolve the issue probably helped BP avoid a discrimination/harassment lawsuit by Becky Cavalier. No one has even bothered to interview Becky Cavalier (except Ken Abbott). Instead of interviewing Becky and the entire team and conducting a proper investigation, Naseman chose to falsely blame Ken Abbott based on the input of two employees (John Schwebel and Benny Kirkham) who wanted to cover up for Alan, and being angry he left, wanted to falsely blame and punish Ken Abbott and Becky Cavalier. Abbott also believes that Bill Naseman was negligent in not telling Abbott about Clark's severe communication problems, and in bringing Clark into the group, to be inherited by Mr. Abbott, when Alan's hot tempered and insubordinate history at BP was well known and documented. The passing around of defamatory email from Alan Clark by BP employees Schwebel and Naseman and contractor Benny Kirkham on the Atlantis Project without any chance for Abbott to see it or to defend his reputation was also inexcusable and damaged his reputation tremendously.

Not only is Naseman guilty of retaliation against Abbott, but Alan Clark is also guilty of retaliation against both Becky Cavalier and Abbott, since Clark was still a BP contract employee when he sent the retaliatory email mentioned in the paragraph above to John Schwebel (Schwebel was not his supervisor). BP did not terminate him until 12/30/08 after waiting a week after his departure on 12/23/08, to give him time to reconsider his departure from the company.

Confidential

There is also the matter of Naseman's illegally changing the terms of Abbott's employment contract by moving the end date from August 18, 2010 back to February 27, 2009 without getting Abbott's consent. This is breach of contract and could result in civil/criminal penalties to BP and full payment to Abbott of the two year contract term. There is substantial evidence of the fraud by Naseman. The BP computer system notice emails to Abbott and emails to Naseman from Abbott show the contract end date was revised to 2/27/09. Also, as reported to Abbott by the Ombudsman, on Wednesday 2/4/09, the VP of Atlantis project Simon Todd and Naseman and the ombudsman met to discuss Abbott's termination and Simon Todd stated that Abbott's contract end date was 2/27/09.

I think BP is overall a good place to work, and I would like to see this illegal termination and breach of contract resolved within the company, and my employment reinstated somewhere within BP. If that cannot be achieved, then full payment of my remaining contract term would be fair.

E-mail 26 of 61

Unknown

From: Kenneth Abbott [kwabbott@comcast.net]

Sent: Monday, February 16, 2009 12:01 PM

To: 'pasha.eatedali@ombudsmanecp.com'

Subject: Recent BP GOM project control manager position

Pasha – I was contacted yesterday by Ms. Amanda Taylor (281-596-8900 – Link Project Services) re a position with BP GOM for a project control manager for a fiber optics install project in the Gulf of Mexico. I sent her my resume and she has sent to BP. I am well qualified for this job because of my offshore project controls experience and my telecom project controls experience with GTE. I would appreciate it if you could ask the GOM HR group to consider me for this position and also for the cost engineer topsides GOM position BP is seeking, which I mentioned to you previously.

From: Amanda Taylor [mailto:art@link-projects.com]
Sent: Monday, February 16, 2009 12:52 PM
To: kwabbott@comcast.net
Subject: Link Project Services

Hello Ken,

I wanted to follow up to our phone conversation earlier. Please send me your BP reference letter or a list references.

Kind Regards,

Amanda R. Taylor
Recruitment Coordinator

Link Project Services
11000 Equity Drive, Suite 250
Houston, TX 77041
281-596-8900
281-596-8920 fax
email: art@link-projects.com
website: www.link-projects.com

E-mail 27 of 61

Unknown

From: Kelly Owrey [kowrey@swift-houston.com]

Sent: Monday, February 16, 2009 1:52 PM

To: 'Kenneth Abbott'

Cc: 'Christopher Lynch'

Subject: RE: Your investigation/Corrective Measures re my complaints of retaliatory discharge and breach of contract by BP

Ken,

I have received your comments, and we are looking into it further. We will get back to you as soon as possible.

Have a great week and we'll be in touch,

Kelly Owrey

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Saturday, February 14, 2009 12:34 AM
To: kowrey@swift-houston.com
Subject: FW: Your investigation/Corrective Measures re my complaints of retaliatory discharge and breach of contract by BP

Kelly – please note that ('pasha.eatedali@ombudsmanecp.com') is the ombudsman investigating my complaints for BP and has the same information I have sent you.

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Saturday, February 14, 2009 12:20 AM
To: 'kowrey@swift-houston.com'
Subject: FW: Your investigation/Corrective Measures re my complaints of retaliatory discharge and breach of contract by BP

Kelly – I am resending this because the previous email had some format errors...

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Saturday, February 14, 2009 12:13 AM
To: 'kowrey@swift-houston.com'
Subject: Your investigation/Corrective Measures re my complaints of retaliatory discharge and breach of contract by BP

Kelly - do you have any feedback for me yet regarding my complaint t
Walsh regarding the retaliatory discharge and breach of contract by
also attached the detailed description of my charges given to BP and
(with some update information). Note the comments in yellow highligh
BP Ombudsman. Also, attached below is the EEOC guidance on the need
staffing firm (same as required by the client) when discrimination/r
are made to them. I would like to make sure these actions are being
by Swift.

EEOC Guidance on Staffing Firms responsibility to respond to a compl

Staffing Firm: The firm is liable if it participates in the client's discrimination. For example, if the firm honors its client's request to remove a worker from a job assignment for a discriminatory reason and replace him or her with an individual outside the worker's protected class, the firm is liable for the discriminatory discharge. The firm also is liable if it knew or should have known about the client's discrimination and failed to undertake prompt corrective measures within its control.33

The adequacy of corrective measures taken by a staffing firm depends on the particular facts. Corrective measures may include, but are not limited to: 1) ensuring that the client is aware of the alleged misconduct; 2) asserting the firm's commitment to protect its workers from unlawful harassment and other forms of prohibited discrimination; 3) insisting that prompt investigative and corrective measures be undertaken; and 4) affording the worker an opportunity, if (s)he so desires, to take a different job assignment at the same rate of pay. The staffing firm should not assign other workers to that work site unless the client has undertaken the necessary corrective and preventive measures to ensure that the discrimination will not recur. Otherwise, the staffing firm will be liable along with the client if a worker later assigned to that client is subjected to similar misconduct.34

From: Kelly Owrey [mailto:kowrey@swift-houston.com]
Sent: Tuesday, February 10, 2009 10:15 AM
To: 'Kenneth Abbott'; Paul.Egner@bp.com
Subject: RE: Ken Abbott's Employment contract

All,

We will look into this and revert back to you both as soon as possible.

Thanks,

Kelly Owrey

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Tuesday, February 10, 2009 9:21 AM
To: Paul.Egner@bp.com
Cc: 'Kelly Owrey'
Subject: Ken Abbott's Employment contract

Paul – This is to advise that I was discharged today. Since you are the Sourcing contract administrator

for BP Atlantis, I am writing to inform you of a breach of my employment contract by BP. Because the contract was breached by Bill Naseman of BP, and as per the Texas payday law, I am requesting full payment of the approximately 18 months remaining on my 2 year contract within six days of my last day on the payroll (2/10/09). The specifics of the breach are detailed below. I have also attached my signed contract for your review.

Kelly – By copy of this email, I am also requesting that you enforce this contract and act to resolve this breach as the contracts administrator for Swift.

- I originally signed a two year contract with BP. During the week of 1/6/09, I discovered that the material terms of that contract had been illegally changed by Bill Naseman. He reduced the term of the contract to six months with a new completion date of 2/27/09, without my agreement or signature to the contract. During the week of 1/6/09, I received an email from the BP computer system admin, advising me that my contract end date was now 2/27/09 and I would need to get authorization to renew the end date or my access to the system would be denied on that date. I emailed and called Bill Naseman to find out what was going on during that week and got no answer. On 2/4/09, as per the BP ombudsman Billie Garde, in a meeting with Naseman and Simon Todd to discuss my retaliatory discharge, Simon Todd told the ombudsman that my contract end date was 2/27/09 instead of the original 8/18/2010.
- Since my termination was a retaliatory discharge by Naseman, (and there is substantial evidence that it was retaliation) the contract has also been violated and BP is in breach, because the contract calls for no retaliatory behavior, and because the dismissal violated US employment laws. Naseman terminated me in retaliation for my trying to resolve Becky Cavailer's complaint to me of harassment and discrimination by Alan Clark.

E-mail 28 of 61

Unknown

From: Kenneth Abbott [kwabbott@comcast.net]

Sent: Thursday, February 19, 2009 5:02 PM

To: 'Pasha Eatedali'

Subject: RE: Additional Information for your investigation

Thanks for looking into this Pasha – yes I will delay any further action until next Friday to allow you to complete your internal investigation. Is that okay?

From: Pasha Eatedali [mailto:pasha.eatedali@ombudsmanecp.com]
Sent: Wednesday, February 18, 2009 11:50 AM
To: Kenneth Abbott
Subject: RE: Additional Information for your investigation

Ken,

Thanks for the information. I've been steadily conducting interviews for this investigation. I am looking to conduct some more. I'd ask that you extend your Feb. 20 deadline. Gathering the facts are my most important objective, which will require more time.

Best Regards,

Pasha Eatedali
Office of The Ombudsman
1300 Eye Street, NW
Suite 900
Washington, DC 20005
Phone: 202-682-7262
Email: pasha.eatedali@ombudsmanecp.com

The information contained in this
email message is intended only for use of the individual or entity
named above. If the reader of this message is not the intended
recipient, or the employee or agent responsible to deliver it to
the intended recipient, you are hereby notified that any
dissemination, distribution or copying of this communication is
strictly prohibited. If you have received this communication in
error, please immediately notify us by email
and destroy the original message. Thank you.

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Wednesday, February 18, 2009 11:36 AM
To: Pasha Eatedali
Subject: Additional Information for your investigation

Pasha – I have some more information for you to consider in your investigation of my employment complaint.

1. During my meeting with Bill Naseman on 1/12/09, he stated that Becky Cavalier had very limited potential as an employee. He said she was only capable of simple clerical work. I thought this was discriminatory and incorrect, and told him that her performance in her job to date was excellent, and she seemed to have very good potential, and the ability to handle any assignment I gave her. He was very negative about her in his statements to me and the others in the meeting (Sim Powell and Eddie Antoine). The cost engineer that Becky works with (Doug McGregor) has had nothing but praise for her efforts, and so have the other cost engineers on my team. I believe that Naseman's discriminatory feelings and statements toward Becky was part of the reason he wrongfully terminated me for trying to protect her from sex and age discrimination and harassment by Alan Clark.

2. Bill Naseman, Neil Shaw, (the VP of the GOM), and Simon Todd, (VP of the Atlantis Project) have made very direct public commitments to BP and contractor staff of BP's intent to not lay off anyone in the GOM or Atlantis in 2009 and to indeed hire 200 new staff. Despite these commitments, to the best of my knowledge, I am the only person in the Atlantis project in Houston to be singled out for discharge. Also, in the chronology of events you emailed me, BP's Bill Naseman states that on **January 29-30, 2009** that Bill Naseman, Bill Broman (Atlantis Subsea Delivery Manager), Dirk Smit (Atlantis Phase 2 Delivery Manager), and Simon Todd (VP Atlantis) discussed whether the company could reduce costs by combining two Project Services Lead into one BP PSL position held by Simm Powell (who had just replaced the other Project Services Lead – Mike Mills (contractor). The fact is that Mike Mills is still employed by BP.

E-mail 29 of 61

Unknown

From: Kelly Owrey [kowrey@swift-houston.com]
Sent: Monday, February 23, 2009 12:30 PM
To: 'Kenneth Abbott'
Cc: 'Christopher Lynch'
Subject: RE: Your investigation/Corrective Measures re my complaints of retaliatory discharge and breach of contract by BP
Importance: High

Hi Ken,

I just wanted to let you know I have sent this on to our Area Director, Chris Lynch (copied) to handle.

Chris would like to set up a meeting with you to discuss this further so please let him know when you are available.

Kind regards,

Kelly Owrey

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Saturday, February 14, 2009 12:34 AM
To: kowrey@swift-houston.com
Subject: FW: Your investigation/Corrective Measures re my complaints of retaliatory discharge and breach of contract by BP

Kelly – please note that ('pasha.eatedali@ombudsmanecp.com') is the ombudsman investigating my complaints for BP and has the same information I have sent you.

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Saturday, February 14, 2009 12:20 AM
To: 'kowrey@swift-houston.com'
Subject: FW: Your investigation/Corrective Measures re my complaints of retaliatory discharge and breach of contract by BP

Kelly – I am resending this because the previous email had some format errors...

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Saturday, February 14, 2009 12:13 AM
To: 'kowrey@swift-houston.com'
Subject: Your investigation/Corrective Measures re my complaints of retaliatory discharge and breach of contract by BP

Kelly - do you have any feedback for me yet regarding my complaint t
Walsh regarding the retaliatory discharge and breach of contract by
also attached the detailed description of my charges given to BP and
(with some update information). Note the comments in yellow highligh
BP Ombudsman. Also, attached below is the EEOC guidance on the need
staffing firm (same as required by the client) when discrimination/r
are made to them. I would like to make sure these actions are being
by Swift.

EEOC Guidance on Staffing Firms responsibility to respond to a compl

Staffing Firm: The firm is liable if it participates in the client's discrimination. For example, if the firm honors its client's request to remove a worker from a job assignment for a discriminatory reason and replace him or her with an individual outside the worker's protected class, the firm is liable for the discriminatory discharge. The firm also is liable if it knew or should have known about the client's discrimination and failed to undertake prompt corrective measures within its control.33

The adequacy of corrective measures taken by a staffing firm depends on the particular facts. Corrective measures may include, but are not limited to: 1) ensuring that the client is aware of the alleged misconduct; 2) asserting the firm's commitment to protect its workers from unlawful harassment and other forms of prohibited discrimination; 3) insisting that prompt investigative and corrective measures be undertaken; and 4) affording the worker an opportunity, if (s)he so desires, to take a different job assignment at the same rate of pay. The staffing firm should not assign other workers to that work site unless the client has undertaken the necessary corrective and preventive measures to ensure that the discrimination will not recur. Otherwise, the staffing firm will be liable along with the client if a worker later assigned to that client is subjected to similar misconduct.34

From: Kelly Owrey [mailto:kowrey@swift-houston.com]
Sent: Tuesday, February 10, 2009 10:15 AM
To: 'Kenneth Abbott'; Paul.Egner@bp.com
Subject: RE: Ken Abbott's Employment contract

All,

We will look into this and revert back to you both as soon as possible.

Thanks,

Kelly Owrey

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Tuesday, February 10, 2009 9:21 AM
To: Paul.Egner@bp.com
Cc: 'Kelly Owrey'
Subject: Ken Abbott's Employment contract

Paul – This is to advise that I was discharged today. Since you are the Sourcing contract administrator for BP Atlantis, I am writing to inform you of a breach of my employment contract by BP. Because the contract was breached by Bill Naseman of BP, and as per the Texas payday law, I am requesting full payment of the approximately 18 months remaining on my 2 year contract within six days of my last day on the payroll (2/10/09). The specifics of the breach are detailed below. I have also attached my signed contract for your review.

Kelly – By copy of this email, I am also requesting that you enforce this contract and act to resolve this breach as the contracts administrator for Swift.

- I originally signed a two year contract with BP. During the week of 1/6/09, I discovered that the material terms of that contract had been illegally changed by Bill Naseman. He reduced the term of the contract to six months with a new completion date of 2/27/09, without my agreement or signature to the contract. During the week of 1/6/09, I received an email from the BP computer system admin, advising me that my contract end date was now 2/27/09 and I would need to get authorization to renew the end date or my access to the system would be denied on that date. I emailed and called Bill Naseman to find out what was going on during that week and got no answer. On 2/4/09, as per the BP ombudsman Billie Garde, in a meeting with Naseman and Simon Todd to discuss my retaliatory discharge, Simon Todd told the ombudsman that my contract end date was 2/27/09 instead of the original 8/18/2010.
- Since my termination was a retaliatory discharge by Naseman, (and there is substantial evidence that it was retaliation) the contract has also been violated and BP is in breach, because the contract calls for no retaliatory behavior, and because the dismissal violated US employment laws. Naseman terminated me in retaliation for my trying to resolve Becky Cavalier's complaint to me of harassment and discrimination by Alan Clark.

E-mail 30 of 61

Unknown

From: Christopher Lynch [clynch@swift-houston.com]
Sent: Tuesday, February 24, 2009 3:03 PM
To: 'Kenneth Abbott'
Cc: kowrey@swift-houston.com
Subject: RE: K Abbott meeting with Chris Lynch
Attachments: ATT00028.eml (172 KB)

Ken, it was good meeting up with you. I will follow up with Parsha at BP. In the meantime here's the letter I discussed with you to confirm your Termination of Contract for Services.

Kind regards

Chris

Christopher Lynch | Area Director - USA

Direct +1 713 328 4566 | Main +1 713 328 4560 | Fax +1 713 328 4561 | Cell +1 832 755 9741

swift oil and gas

This message is intended only for the stated addressee(s) and may be confidential. Access to this email by anyone else is unauthorised. Any opinions expressed in this email do not necessarily reflect the opinions of Swift Technical Group Holdings Limited, its subsidiary or associated companies.

www.swiftoilandgas.com

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Monday, February 23, 2009 2:07 PM
To: clynch@swift-houston.com
Cc: kowrey@swift-houston.com
Subject: K Abbott meeting with Chris Lynch

Chris/Kelly – tomorrow would be a good time for me to meet with Chris – say around 10AM – is that okay. Can you confirm and send me directions please...

From: Kelly Owrey [mailto:kowrey@swift-houston.com]
Sent: Monday, February 23, 2009 12:30 PM
To: 'Kenneth Abbott'
Cc: 'Christopher Lynch'
Subject: RE: Your investigation/Corrective Measures re my complaints of retaliatory discharge and breach of contract by BP
Importance: High

Hi Ken,

I just wanted to let you know I have sent this on to our Area Director, Chris Lynch (copied) to handle.

Chris would like to set up a meeting with you to discuss this further so please let him know when you are available.

Kind regards,

Kelly Owrey

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Saturday, February 14, 2009 12:34 AM
To: kowrey@swift-houston.com
Subject: FW: Your investigation/Corrective Measures re my complaints of retaliatory discharge and breach of contract by BP

Kelly – please note that ('pasha.eatedali@ombudsmanecp.com') is the ombudsman investigating my complaints for BP and has the same information I have sent you.

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Saturday, February 14, 2009 12:20 AM
To: 'kowrey@swift-houston.com'
Subject: FW: Your investigation/Corrective Measures re my complaints of retaliatory discharge and breach of contract by BP

Kelly – I am resending this because the previous email had some format errors...

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Saturday, February 14, 2009 12:13 AM
To: 'kowrey@swift-houston.com'
Subject: Your investigation/Corrective Measures re my complaints of retaliatory discharge and breach of contract by BP

Kelly - do you have any feedback for me yet regarding my complaint t
Walsh regarding the retaliatory discharge and breach of contract by
also attached the detailed description of my charges given to BP and
(with some update information). Note the comments in yellow highligh
BP Ombudsman. Also, attached below is the EEOC guidance on the need
staffing firm (same as required by the client) when discrimination/r
are made to them. I would like to make sure these actions are being
by Swift.

EEOC Guidance on Staffing Firms responsibility to respond to a complaint of discrimination/retaliation by one of

Staffing Firm: The firm is liable if it participates in the client's discrimination. For example, if the firm honors its client's request to remove a worker from a job assignment for a discriminatory reason and replace him or her with an individual outside the worker's protected class, the firm is liable for the discriminatory discharge. The firm also is liable if it knew or should have known about the client's discrimination and failed to undertake prompt corrective measures within its control.33

The adequacy of corrective measures taken by a staffing firm depends on the particular facts. Corrective measures may include, but are not limited to: 1) ensuring that the client is aware of the alleged misconduct; 2) asserting the firm's commitment to protect its workers from unlawful harassment and other forms of prohibited discrimination; 3) insisting that prompt investigative and corrective measures be undertaken; and 4) affording the worker an opportunity, if (s)he so desires, to take a different job assignment at the same rate of pay. The staffing firm should not assign other workers to that work site unless the client has undertaken the necessary corrective and preventive measures to ensure that the discrimination will not recur. Otherwise, the staffing firm will be liable along with the client if a worker later assigned to that client is subjected to similar misconduct.34

From: Kelly Owrey [mailto:kowrey@swift-houston.com]
Sent: Tuesday, February 10, 2009 10:15 AM
To: 'Kenneth Abbott'; Paul.Egner@bp.com
Subject: RE: Ken Abbott's Employment contract

All,

We will look into this and revert back to you both as soon as possible.

Thanks,

Kelly Owrey

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Tuesday, February 10, 2009 9:21 AM
To: Paul.Egner@bp.com
Cc: 'Kelly Owrey'
Subject: Ken Abbott's Employment contract

Paul – This is to advise that I was discharged today. Since you are the Sourcing contract administrator for BP Atlantis, I am writing to inform you of a breach of my employment contract by BP. Because the contract was breached by Bill Naseman of BP, and as per the Texas payday law, I am requesting full payment of the approximately 18 months remaining on my 2 yaar contract within six days of my last day on the payroll (2/10/09). The specifics of the breach are detailed below. I have also attached my signed contract for your review.

Kelly – By copy of this email, I am also requesting that you enforce this contract and act to resolve this breach as the contracts administrator for Swift.

- I originally signed a two year contract with BP. During the week of 1/6/09, I discovered that the material terms of that contract had been illegally changed by Bill Naseman. He reduced the term of the contract to six months with a new completion date of 2/27/09, without my agreement or signature to the contract. During the week of 1/6/09, I received an email from the BP computer system admin, advising me that my contract end date was now 2/27/09 and I would need to get authorization to renew the end date or my access to the system would be denied on that date. I emailed and called Bill Naseman to find out what was going on during that week and got no answer. On 2/4/09, as per the BP ombudsman Billie Garde, in a meeting with Neseman and Simon Todd to discuss my retaliatory discharge, Simon Todd told the ombudsman that my contract end date was 2/27/09 instead of the original 8/18/2010.
- Since my termination was a retaliatory discharge by Naseman, (and there is substantial evidence that it was retaliation) the contract has also been violated and BP is in breach, because the contract calls for no retaliatory behavior, and because the dismissal violated US employment laws. Naseman terminated me in retaliation for my trying to resolve Becky Cavailer's complaint to me of harassment and discrimination by Alan Clark.

Unknown

From: ricoh_copier@swift-houston.com
Sent: Wednesday, February 25, 2009 1:59 AM
To: Chris

Attachments: 20090225025912548.pdf

20090225025912548.pdf (167 KB)...

This E-mail was sent from "RNPDDDBDE" (Aficio MP C4500).

Scan Date: 02.25.2009 02:59:12 (-0500)
Queries to: ricoh_copier@swift-houston.com

swift oil and gas

Swift Technical Services, LLC
3050 Post Oak Blvd., Suite 1450
Houston, Texas 77056
t: +1 713 328 4560
f: +1 713 328 4561
e: info@swift-houston.com
www.swiftoilandgas.com

February 24, 2009

Kenneth Abbott
9726 Refugio Court
Houston, Texas 77064

Dear Mr. Abbott

Re: Termination of Contract for Services

Swift received information from you regarding your Termination of Contract for Services (the "Contract"). I wish to confirm the events which led to the termination of your Contract.

Swift terminated your Contract for Services with BP America Production Company due to the slowdown on the BP Atlantis project, Phase 2, to which you were assigned. As a result of the downturn in the oil and gas market, BP re-structured the project team and consolidated the two Project Services Lead positions into one position.

Furthermore, Section 6.1 of the Contract for Services executed by you and Swift provides that Swift "may, at any time, with or without cause, terminate this contract, by giving five (5) days written notice to Contractor specifying the date of termination." Accordingly, Swift provided you with proper notice to terminate your Contract for Services.

Yours sincerely,

Chris Lynch
Area Director - USA

E-mail 31 of 61

Unknown

From: Kenneth Abbott [kwabbott@comcast.net]
Sent: Wednesday, February 25, 2009 5:02 PM
To: 'pasha.eatedali@ombudsmanecp.com'
Subject: Recent BP GOM project control manager position
Attachments: abbott chronology1.doc

Pasha – attached below are two emails. The first is a notice from Amanda Taylor (Link recruitment coordinator) that the BP GOM (Atlantis) project controls engineer job I recently applied for has been filled by another candidate sometime during 2/2009. This is a job similar to mine, and even though I applied (see second email below) I was not given a chance to even interview for it. This is further proof that the reduction in force explanation for my dismissal by BP is not true, and that they are making no effort to place me in a similar position in the same group. Also, it seems to me that BP could have at least kept me on the payroll until my employment charges have been investigated.

Also, I have attached the chronology of events with some green text I have just added (see paragraph 4 and 10), with my claim that Naseman's truth in hiring violations and his fraud in changing my contract are also Rico Act violations.

From: Amanda Taylor [mailto:art@link-projects.com]
Sent: Wednesday, February 25, 2009 4:19 PM
To: kwabbott@comcast.net
Subject: Link Project Services
Importance: High

Hello Kenneth,

I received an update from BP today that the Project Controls Engineer position has been closed. They have chosen and candidate. I will keep you updated of any future positions we receive that you may be a fit for.

Thank you for your time.
Kind Regards,

Amanda R. Taylor
Recruitment Coordinator

Link Project Services
11000 Equity Drive, Suite 250
Houston, TX 77041
281-596-8900
281-596-8920 fax
email: art@link-projects.com
website: www.link-projects.com

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Monday, February 16, 2009 12:01 PM
To: 'pasha.eatedali@ombudsmanecp.com'
Subject: Recent BP GOM project control manager position

Pasha – I was contacted yesterday by Ms. Amanda Taylor (281-596-8900 – Link Project Services) re a position with BP GOM for a project control manager for a fiber optics install project in the Gulf of Mexico. I sent her my resume and she has sent to BP. I am well qualified for this job because of my offshore project controls experience and my telecom project controls experience with GTE. I would appreciate it if

you could ask the GOM HR group to consider me for this position and also for the cost engineer topsides GOM position BP is seeking, which I mentioned to you previously.

From: Amanda Taylor [mailto:art@link-projects.com]
Sent: Monday, February 16, 2009 12:52 PM
To: kwabbott@comcast.net
Subject: Link Project Services

Hello Ken,

I wanted to follow up to our phone conversation earlier. Please send me your BP reference letter or a list references.

Kind Regards,

Amanda R. Taylor
Recruitment Coordinator

Link Project Services
11000 Equity Drive, Suite 250
Houston, TX 77041
281-596-8900
281-596-8920 fax
email: art@link-projects.com
website: www.link-projects.com

2009-005 (Abbott and Atlantis) Chronology and Abbott's Retaliatory Discharge and BP Breach of Contract Complaint

- **July 21, 2008**
  - Kenneth Abbott has his services contracted by Swift Technical (contractor) to BP America with a start date of August 18, 2008 and an ending date of 2010
  - Position is Subsea Projects Services Leader
  - Letter and signed contract sent by Kerri Walsh who is Business Development Manager for Swift Technical
  - Abbott leaves GE full time employee payroll and joins BP for a two year contract and a promise of temp to perm placement within BP in 6 months by Bill Naseman. In October 2008 Naseman confirms to Abbott that he will be made a permanent BP employee by January 2009. Naseman violated truth in hiring laws by promising long term employment and temp to perm and enducing Abbott to leave his old job and then dismissing him after only 51/2 months for retaliatory reasons. Also, when Naseman changed the contract term from 2 years to 6 months without Abbott's approval, he committed fraud. These violations by Naseman of truth in hiring and contract fraud are also violations of the Rico Act.

- **December 23, 2008**
  - *9:00 AM* - Mr. Abbott alleges that one of his employees (Becky Cavalier a Cost Analyst from a Turner & Townsend) approaches him about being harassed and discriminated against by Alan Clark (Cost Engineer from Clover)
  - *10:00 AM* – Mr. Abbott approaches Mr. Clark regarding the concerns raised to him. He alerts Mr. Clark that he needs to improve his communications with Ms. Cavalier. Mr. Clark requested that Ms. Cavalier be terminated because she was "no good." (he also called her a SILLY OLD SOW, and Mr. Abbott reminded him that was discrimination. Mr. Abbott replied that he had only heard good things about her and that firing her would not be the solution, which resulted in Mr. Clark becoming angry…Mr. Abbott reminded him that everyone had to "work together in order to get the job done." Clark then told Abbott to fuck off and leave his office, which was insubordinate.
  - *10:30 AM* – Mr. Abbott is approached by Mr. Clark asking him to sign his timesheet. After which Mr. Clark left his office announcing that Mr. Abbott had just fired him. Mr. Abbott expressed that at no point did he tell Mr. Clark that he was terminated.
  - *11:00 AM* – Mr. Clark dropped his key off to the admin for Atlantis (Necie Kelley) and alerted her that he was leaving. Mr. Abbott left Mr. Clark a cell phone message asking him to call him to resolve the issues. Later that day, Abbott phones Naseman at home (he is on 2 week Xmas break) to brief him on the departure of Clark, and Naseman tells Abbott that Alan has done this

OGC Confidential

same kind of hostile departure on two other BP jobs previously, and the last job before this one he left without any notice after an argument with his supervisor and then tried to come back three days later, and the supervisor refused. My question is why did BP leave this guy in place knowing he is a ticking time bomb? Mike Price, PE on Atlantis and Doug McGregor, cost engineer on Atlantis, also independently confirmed to Abbott the hostile behavior of Alan to other employees, and Mike Mills, his ex supervisor for Turner and Townsend also said he had Turner scared of him and was always blowing up over nothing.

- **Sometime after Mr. Clark left (Between Dec. 23 – Jan. 12, 2009)**
  - Mr. Abbott believes that shortly after Mr. Clark left the company he wrote an email to John Schwebel (Project Director – BP) and from what he has heard secondhand, the email is very critical of Mr. Abbott → and blaming Mr. Abbott for the events that transpired, and also accusing Becky Cavalier of causing his firing, and that she was the problem, not him. The email was apparently then distributed amongst project management and engineering leads on Atlantis, including Benny Kirkham and Mr. Naseman. Mr. Abbott has been told by Naseman that he will not give him a copy of the email to review and respond to. Schwebel told Abbott that Alan did a good job and that Becky Cavalier and all others in the cost group were incompetent. Benny made discriminatory statements against Becky Cavalier and said not to hitch my wagon to her. Other Atlantis team cost engineers supported Becky. Doug McGregor said that Alan had been continually harassing and humiliating her for the past few months.
  - During the week of 1/6/09, Ken Abbott received an email BP system alert that his system access was going to expire soon, and that he needed to get it reauthorized by his supervisor, and that his contract expire date was 2/27/09. Abbott sent an email to Naseman requesting the reauthorization and asking why the system showed his contract ending in 6 months instead of 24, and he received no reply. Finally, Abbott called Naseman re the email, and Naseman said they would discuss it at the 1/12/09 meeting (Naseman said he was not ready to discuss it yet after the 1/12/09 meeting). Abbott had previously called Eddie Antoine re why was the system showing his contract term had been changed to 2/27/09, and Eddie had no explanation, but he is also a witness to the fact the contract term was changed by Naseman. This is very good evidence the contract expire date was moved up by Naseman, based on his decision to terminate Abbott in retaliation for his trying to protect the rights of Becky Cavalier to not be harassed and discriminated against.

- **January 12, 2009**
  - Mr. Abbott alleges that Bill Naseman (BP Project Services Mgr for Atlantis) calls him into his office and blames Mr. Abbott for all of the events that had transpired with Mr. Clark. Mr. Naseman alerted Mr. Abbott that he did not follow the BP manager guidelines and that they would start having monthly meetings to work on his management skills and that Mr. Abbott should have

spoken to Mr. Naseman before confronting Mr. Clark, and that only Naseman should discuss this with Clark, although Abbott had never been told these Naseman rules previously, and although BP put him in a supervisory role over five people. Abbott has previously had nothing but good reports on his performance from his project director Bill Broman and Naseman. Abbott had been also told by Naseman in October 2008 that his contract position would go to permanent BP staff status in early 2009, and when Abbott was hired in August 2008, Naseman told him that the position was a temp to perm position.

- **January 15, 2009**
  - Swift Oil and Gas posts an employment opportunity for the position of "Project Services Lead" for a "MAJOR operator" that calls for a contract person to work on a "long-term Gulf of Mexico project." Kerri Walsh of Swift tells Ken Abbott that the position was for the BP GOM Atlantis, and that Bill Naseman has interviewed two candidates for the position. This is obviously an ad for Abbott's replacement and a contract position. Also, Naseman told Abbott and Eddie Antoine and Sim Powell (all managers in Naseman's group) in a meeting on 1/12/09 that he was also seeking to hire a senior cost engineer contractor for the topsides group for the Phase 2 Atlantis work. Why was Abbott not allowed to move into this position or even be considered for it?
    - *Raises questions as to whether BP planned on hiring another contract employee to replace Mr. Abbott – shortly after Mr. Naseman had confronted Mr. Abbott about the incident with Mr. Clark. This job posting is in direct contrast to the information BP provided the OoO regarding the Project Services Lead position.*

- **January 29-30, 2009**

  BP asserts that Bill Naseman, Bill Broman (Atlantis Subsea Delivery Manager), Dirk Smit (Atlantis Phase 2 Delivery Manager), and Simon Todd (VP Atlantis) discussed whether the company could reduce costs by combining two Project Services Lead into one BP PSL position held by Simm Powell (who had just replaced the other Project Services Lead – Mike Mills (contractor). From the evidence in the paragraphs above and below, it is clear that Bill Naseman's decision to terminate Abbott was not because of a reduction in staff due to lack of work as he contends. He terminated Abbott to retaliate against him, and Naseman made his decision to do so sometime during the first two weeks of January 2009.

- **January 30, 2009**
  - BP asserts that Bill Naseman, Project Services Manager for Atlantis decides that Ken Abbott's position should be eliminated.

- **February 3, 2009**
  - Mr. Abbott is told that his contract is being terminated early, and that his final day would be February 9th.
  - 4:00 PM EST – Mr. Abbott brings his concern regarding his retaliatory discharge to OoO

- 4:30-4:50 PM EST – Mr. Abbott asserted he was to have a meeting with BP HR, his contractor manager, and Naseman to discuss his termination. Instead he was approached by Bill Naseman and Greg Farnham (BP Atlantis HR) and was told that it was best that he pack his things and leave the premises, rather than waiting till Friday because of all the allegations he had raised, and all that had transpired that day. Bill Naseman stated when he came to Abbott's office with Farnham that he was let go for lack of work (as did Kerri Walsh in her call to Abbott telling me about the dismissal earlier that day). The evidence shows this was false. On 1/29/08 at Naseman's biweekly staff meeting, he reviewed slides from Simon Todd's leadership team that showed BP GOM planned to hire 200 new staff during 2009 and there were no layoffs planned in the GOM production group. Eddie Antoine, John Vernor, and Mike Mills all heard this "no layoffs" pledge and we were encouraged to spread the word among our staff to reassure everyone. In fact, during the last two weeks of 12/08, the VP of GOM held a town hall for the entire GOM production team and said that we were hiring for 2009, and no layoffs were planned.

I must tell you how much this illegal termination has bothered me, because not only was there a false reason for dismissal, but more importantly, it was hard to have a personal attack on my management and professional skills as a result of standing up for an employee who was being harassed. As soon as Bill Naseman returned from his Christmas holiday on app.1/6/09, he started this retaliation against Ken Abbott.

- **Abbott's Concluding Remarks:**

Ken Abbott has been harassed and retaliated against by being terminated because he did the right thing for BP as a supervisor and stood up for a female employee who had accused Alan Clark of harassment. His effort to resolve the issue probably helped BP avoid a discrimination/harassment lawsuit by Becky Cavalier. No one has even bothered to interview Becky Cavalier (except Ken Abbott). Instead of interviewing Becky and the entire team and conducting a proper investigation, Naseman chose to falsely blame Ken Abbott based on the input of two employees (John Schwebel and Benny Kirkham) who wanted to cover up for Alan, and being angry he left, wanted to falsely blame and punish Ken Abbott and Becky Cavalier. Abbott also believes that Bill Naseman was negligent in not telling Abbott about Clark's severe communication problems, and in bringing Clark into the group, to be inherited by Mr. Abbott, when Alan's hot tempered and insubordinate history at BP was well known and documented. The passing around of defamatory email from Alan Clark by BP employees Schwebel and Naseman and contractor Benny Kirkham on the Atlantis Project without any chance for Abbott to see it or to defend his reputation was also inexcusable and damaged his reputation tremendously.

Not only is Naseman guilty of retaliation against Abbott, but Alan Clark is also guilty of retaliation against both Becky Cavalier and Abbott, since Clark was still a BP contract employee when he sent the retaliatory email mentioned in the paragraph above to John Schwebel (Schwebel was not his supervisor). BP did not terminate him until 12/30/08

after waiting a week after his departure on 12/23/08, to give him time to reconsider his departure from the company.

There is also the matter of Naseman's illegally changing the terms of Abbott's employment contract by moving the end date from August 18, 2010 back to February 27, 2009 without getting Abbott's consent. This is breach of contract and could result in civil/criminal penalties to BP and full payment to Abbott of the two year contract term. There is substantial evidence of the fraud by Naseman. The BP computer system notice emails to Abbott and emails to Naseman from Abbott show the contract end date was revised to 2/27/09. Also, as reported to Abbott by the Ombudsman, on Wednesday 2/4/09, the VP of Atlantis project Simon Todd and Naseman and the ombudsman met to discuss Abbott's termination and Simon Todd stated that Abbott's contract end date was 2/27/09.

I think BP is overall a good place to work, and I would like to see this illegal termination and breach of contract resolved within the company, and my employment reinstated somewhere within BP. If that cannot be achieved, then full payment of my remaining contract term would be fair.

E-mail 32 of 61

Unknown

From: Pasha Eatedali [pasha.eatedali@ombudsmanecp.com]

Sent: Wednesday, February 25, 2009 3:13 PM

To: Kenneth Abbott

Subject: RE: Additional Information for your investigation

Thanks Ken.

As for the report, it is our protocol not to provide copies of the final investigation report. Rather, we provide the Concerned Individual an oral debrief of the results of the investigation.

As for the documentation that is gathered during the investigation, it is our protocol not to share that evidence with anyone. Most information is provided to us as a result of our policy to maintain confidentiality of both the source and substance of the material. The emails and your BP Personnel File (which I have not seen) can be requested through BP directly. Any emails to or from Clover can also be requested from them.

As for Alan Clark's job status: all I know is that he is no longer part of the Atlantis project and never returned after your meeting with him.

I apologize that I can not be more of a help, but I must adhere to the policies and protocol of the Office of the Ombudsman.

Best Regards,

Pasha Eatedali
Office of The Ombudsman
1300 Eye Street, NW
Suite 900
Washington, DC 20005
Phone: 202-682-7262
Email: pasha.eatedali@ombudsmanecp.com

The information contained in this
email message is intended only for use of the individual or entity
named above. If the reader of this message is not the intended
recipient, or the employee or agent responsible to deliver it to
the intended recipient, you are hereby notified that any
dissemination, distribution or copying of this communication is
strictly prohibited. If you have received this communication in
error, please immediately notify us by email
and destroy the original message. Thank you.

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Wednesday, February 25, 2009 2:38 PM
To: Pasha Eatedali
Subject: RE: Additional Information for your investigation

Pasha – As per your request, I will delay any further action until next Tuesday (3/4/09).

When your investigation is done, I would like a complete copy of your report. Also - can you send me now a copy of Alan Clark's email to John Schwebel with his allegations. I also would like a copy of the email from Clover which they sent to Bill Naseman (Naseman told me he had requested a letter from them regarding Clark's departure.) I asked for but never received either of these emails from Naseman. Note that if you talk to the Clover agency (their HR and BP rep), they can verify that I did talk to them on 12/24/08 to ask them to find out when Clark was going to return to work, and to tell them that Clark had not been fired.

Also, I would like to request a copy of anything in my BP employee file.

Have you verified if Alan Clark has left the company? There is still an Alan Clark employed at the BP office in Aberdeen, Scotland (his homeland is Scotland).

From: Pasha Eatedali [mailto:pasha.eatedali@ombudsmanecp.com]
Sent: Monday, February 23, 2009 9:05 AM
To: Kenneth Abbott
Subject: RE: Additional Information for your investigation

Ken,

Hope you had a great weekend. I have a few more interviews before my investigation is complete. I was hoping to delay till next Tuesday. It is possible the Judge's review of the matter will lengthen the time needed. So I ask that you bear with me. I appreciate your patience.

Best Regards,

Pasha Eatedali
Office of The Ombudsman
1300 Eye Street, NW
Suite 900
Washington, DC 20005
Phone: 202-682-7262
Email: pasha.eatedali@ombudsmanecp.com

The information contained in this
email message is intended only for use of the individual or entity
named above. If the reader of this message is not the intended
recipient, or the employee or agent responsible to deliver it to
the intended recipient, you are hereby notified that any
dissemination, distribution or copying of this communication is
strictly prohibited. If you have received this communication in
error, please immediately notify us by email
and destroy the original message. Thank you.

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Thursday, February 19, 2009 6:02 PM

To: Pasha Eatedali
Subject: RE: Additional Information for your investigation

Thanks for looking into this Pasha – yes I will delay any further action until next Friday to allow you to complete your internal investigation. Is that okay?

From: Pasha Eatedali [mailto:pasha.eatedali@ombudsmanecp.com]
Sent: Wednesday, February 18, 2009 11:50 AM
To: Kenneth Abbott
Subject: RE: Additional Information for your investigation

Ken,

Thanks for the information. I've been steadily conducting interviews for this investigation. I am looking to conduct some more. I'd ask that you extend your Feb. 20 deadline. Gathering the facts are my most important objective, which will require more time.

Best Regards,

Pasha Eatedali
Office of The Ombudsman
1300 Eye Street, NW
Suite 900
Washington, DC 20005
Phone: 202-682-7262
Email: pasha.eatedali@ombudsmanecp.com

The information contained in this
email message is intended only for use of the individual or entity
named above. If the reader of this message is not the intended
recipient, or the employee or agent responsible to deliver it to
the intended recipient, you are hereby notified that any
dissemination, distribution or copying of this communication is
strictly prohibited. If you have received this communication in
error, please immediately notify us by email
and destroy the original message. Thank you.

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Wednesday, February 18, 2009 11:36 AM
To: Pasha Eatedali
Subject: Additional Information for your investigation

Pasha – I have some more information for you to consider in your investigation of my employment complaint.

1. During my meeting with Bill Naseman on 1/12/09, he stated that Becky Cavalier had very limited potential as an employee. He said she was only capable of simple clerical work. I thought this was discriminatory and incorrect, and told him that her performance in her job to

date was excellent, and she seemed to have very good potential, and the ability to handle any assignment I gave her. He was very negative about her in his statements to me and the others in the meeting (Sim Powell and Eddie Antoine). The cost engineer that Becky works with (Doug McGregor) has had nothing but praise for her efforts, and so have the other cost engineers on my team. I believe that Naseman's discriminatory feelings and statements toward Becky was part of the reason he wrongfully terminated me for trying to protect her from sex and age discrimination and harassment by Alan Clark.

2. Bill Naseman, Neil Shaw, (the VP of the GOM), and Simon Todd, (VP of the Atlantis Project) have made very direct public commitments to BP and contractor staff of BP's intent to not lay off anyone in the GOM or Atlantis in 2009 and to indeed hire 200 new staff. Despite these commitments, to the best of my knowledge, I am the only person in the Atlantis project in Houston to be singled out for discharge. Also, in the chronology of events you emailed me, BP's Bill Naseman states that on **January 29-30, 2009** that Bill Naseman, Bill Broman (Atlantis Subsea Delivery Manager), Dirk Smit (Atlantis Phase 2 Delivery Manager), and Simon Todd (VP Atlantis) discussed whether the company could reduce costs by combining two Project Services Lead into one BP PSL position held by Simm Powell (who had just replaced the other Project Services Lead – Mike Mills (contractor). The fact is that Mike Mills is still employed by BP.

E-mail 33 of 61

Unknown

From: Kenneth Abbott [kwabbott@comcast.net]
Sent: Friday, February 27, 2009 4:01 AM
To: kwabbott@comcast.net
Subject: FW: Atlantis Document Control Proposal - Path Forward

Attachments: Sector 31 - Wellheads - J.Hughes.xls; Sector 32 - Trees - R. Weber.ZIP; Sector 33 - Manifolds - J. Schwebel.ZIP; Sector 34 - Pipelines - J.Mack.ZIP; Sector 35 - Controls- D. Whitehead.ZIP; Sector 36 - Umbilical - B. Kirkham.ZIP; Sector 37 - Risers - J. Mack .ZIP; Sector 70 - Installation- J. Hughes.ZIP

From: Broman, William H(HOU)
Sent: Monday, November 24, 2008 11:46 AM
To: Abbott, Ken (SWIFT TECHNICAL SERVICES)
Cc: Broman, William H(HOU)
Subject: FW: Atlantis Document Control Proposal - Path Forward

Ken, how does this read before we go out with it?
****

Leads, please read through the note below from Project Services outlining our approach to attacking the Subsea documentation issues we discussed a couple of weeks ago. As we discussed at that review we realize there is a large issue with getting this cleaned up and that we will all have to work with Tinikka and our teams to get the items reviewed and corrected.

I know we will cross a few bumps in the road on the way through this and ask that you work with Tinikka to map out a way to navigate through it with as little pain as possible. As we discover timing and resourcing issues please work them with me as needed and we will adjust as we have to so that it all gets done to our satisfaction.

If you have any comments or schedule conflicts please let me know.

Thx

Bill

Bill Broman
Atlantis Subsea Delivery Manager
GOM Deepwater
281-249-1337 office
william.broman@bp.com

****
****

Attention Atlantis Leads: We are in the process of close-out for the DC-1 original scope project costs and the issuance of all final documentum drawings to the operations group for these working assets. It is critical that before we issue these to operations that we QC them.

As we have discussed, there are some issues with drawings not being in compliance with project drawing numbering and tracking procedures, and the status of drawings by drill center is not complete. We intend to remedy these problems and bring the DC-1 drawings to a proper close-out by the end of February 09, and issue as-built drawings to operations at that time. To do so, we need help from the project teams and leads to complete the work scope. At the same time, it is our intent to also get the DC3, Water Injection, and SS2 documentum tracking and documentation back in sync with current

drawing control procedures.

We have reviewed the below plan will Bill Broman and the Greater Atlantis Document Control team, and we have their endorsement. **This effort will require dedicated support from each of your teams to review and correct the spreadsheets (Tinikka has attached the spreadsheets below by lead and sector) showing the documents under your area. Our intention is to correct the drill center #, rev #, rev status, etc. during the next few weeks (scheduled completion date is 01/09/09).** Once we have the drawing data correct in Documentum, we plan to then issue documentum drawing schedules with required as-built drawing need dates for closeout for all documents for monthly status updating by the schedulers and leads.

Schedule for Documentum updates/corrections

11/24/08 - Tinikka Distributes Drawing Index to Leads, and begins meeting with Leads to explain input required as well as to help work sample corrections
01/09/09 – Leads & delegates Complete mark-up of Document Index with corrections and drill center # as required
02/06/09 - All corrections and drill center # attributes loaded into Documentum
02/13/08 - Summary drawing schedule to leads showing current drawing revision status and required issue date for all as-built drawings
02/27/09 - Final as-built drawings to Tinikka for all DC-1 drawings for issue to operations
??/??/09 – Final as-built drawings to Tinikka for all SS2, WF, DC3 drawings for issue

Supporting Facts

Today most documents that come to BP document control comes from Technip document control in the subsea drop box in Documentum. Once the documents are QC'd, we find several issues with the documentation that need to be resolved before loading into Documentum.

Problem

Many of the documents in Documentum are incorrectly numbered, titled, and or have wrongly identified or missing drill centers. This creates a problem for retrieval and the ability to handover accurate final as-built documentation to Operations.

Recommendation

BP Document Control will provide a spreadsheet for each lead with documents broken down by Sector.

A Document Status kick-off meeting will be scheduled with each of the Leads and/or Dedicated Representatives from each group for every document on the list to be reviewed and distinguish if the following attributes are correct. If they are incorrect, the leads (or designate) will need to correct them up on the spreadsheet for Tinikka to input into Documentum:

- Sector
- Discipline
- Document Type
- Area – Drill Center
- Revision
- Rev Purpose Code - Status
- Archival or Handover

Tinikka will work for a half-day with each lead (or designate) to show them what drawing fields on the list must be updated and to go through examples with them. The leads will then be responsible to complete the mark-up of their individual spreadsheets and return to Tinikka for input into Documentum by 01/09/09.

BP Document Control will begin to record the following attributes in documentum to allow for more enhanced search capabilities.

- Originator/ Contractor Firm
- Transmittal number
- Contractor Document Number
- Status Code

Process

1. The Lead will receive the spreadsheet by **SECTOR.**
The first attributes to be reviewed are the Sector, Discipline, and Document Type. They need to be reviewed for accuracy and corrected as needed. These attributes have a lot of impact on how documents are filed in Documentum.

    - Sector
    - Discipline
    - Document Type.

2. The next attribute to be identified is the **AREA - (drill center).**
The drill center will determine the next steps to take with the document.

    Because we work in phases it is to our advantage to label the document by phase, if it's relevant, to the document for easier identification at handover.

    Subsea All

    - Documents that are common to all Drill Centers

    - There should not be very many of these documents, and most documents should still have a specific sector other than 30.

    - Most of these documents will stay with the project until the end of the job.

    Drill Center 1 – South Flank

    DC-1

    - **Documents that illustrate what is currently installed and planned to stay unless other circumstances occur.**

    - **These documents are a priority because most of these documents reflect what's currently installed and operating and need to be handover to Operations.**

    DC-1 (SS-0)

    - Documents that illustrate Original design / equipment that was removed.

    - All of these documents will probably be archived.

    DC-1 (SS1)

- **Documents that illustrate what is currently installed but planned to be removed by another phase.**
- **These documents are also a priority because most of these documents reflect what's currently installed and operating and need to be handover to Operations.**
- **Some of these documents will be added to a cross-reference spreadsheet to ensure that they are superseded by the next phase documents and correctly numbered during the next phase.**

DC-1 (SS2)

- Documents that illustrate what will replace equipment that is currently installed
- These documents are still in review/comment status so any errors made can be corrected.

Drill Center 3 – North Flank

DC-3

- Documents that are assigned to Atlantis North Flank (ANF) Base Case.
- These documents are still in review/comment status so any errors made can be corrected.

DC-3 (Phase I)

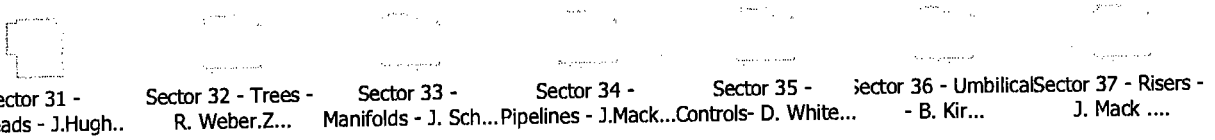
- Documents that is specific to ANF Phase I only.
- These documents are the next priority because some of these documents reflect what is installed but not operating. These documents are second priority on the list to be handed over to Operations.

DC-3 (Phase II)

- Documents that are specific to ANF Phase II only.
- These documents are still in review/comment status so any errors made can be corrected.

3. Now we can begin to check the **revision code** and **rev purpose code** *(status code)*.

4. In some cases the leads and/or Rep know if the documents are going to be **handover to Operations** or **archived deliverables.**
   This step will allow us to prioritize correcting the handover documentation before the archival data.



Sector 70 -
Installation- J. H...

Pursuant to the Declaration of David L. Perry, Paragraph 7, the files attached to the preceding e-mail were not printed.

.xls Attachment Titles (some within ZIP files):

Sector 31 – Wellheads – J.Hughes

Sector 32 – Trees – R Weber

Sector 33 – Manifolds – J Schwebel

Sector 34 – Pipelines – J Mack

Sector 35 – Controls – D Whitehead

Sector 36 – Umbilical – B Kirkham

Sector 37 – Risers – J Mack

Sector 70 – Installation-J Hughes

E-mail 34 of 61

Unknown

From: Kenneth Abbott [kwabbott@comcast.net]
Sent: Friday, February 27, 2009 4:01 AM
To: kwabbott@comcast.net
Subject: FW: Atlantis Document Control - Path Forward

Attachments: Sector 31 - Wellheads - J.Hughes.xls; Sector 32 - Trees - R. Weber.ZIP; Sector 33 - Manifolds - J. Schwebel.ZIP; Sector 34 - Pipelines - J.Mack.ZIP; Sector 35 - Controls- D. Whitehead.ZIP; Sector 36 - Umbilical - B. Kirkham.ZIP; Sector 37 - Risers - J. Mack .ZIP; Sector 70 - Installation- J. Hughes.ZIP

From: Broman, William H(HOU)
Sent: Monday, November 24, 2008 1:40 PM
To: Hughes, John D; Schwebel, John; Malone, Ryan P; Jondle, John J; Mack, John G; Kirkham, Benny (BAMA); Whitehead, David K (Technip); Vass, Malcolm (Technip); Weber, Rick G
Cc: Broman, William H(HOU); Abbott, Ken (SWIFT TECHNICAL SERVICES); Naseman, Bill E; Curtis, Tinikka (NES)
Subject: Atlantis Document Control - Path Forward

Leads, please read through the note below from Project Services outlining our approach to attacking the Subsea documentation issues we discussed a couple of weeks ago. As we discussed at that review we realize there is a large issue with getting this cleaned up and that we will all have to work with Tinikka and our teams to get the items reviewed and corrected.

I know we will cross a few bumps in the road on the way through this and ask that you work with Tinikka to map out a way to navigate through it with as little pain as possible. As we discover timing and resourcing issues please work them with me as needed and we will adjust as we have to so that it all gets done to our satisfaction.

If you have any comments or schedule conflicts please let me know.

Thx

Bill

Bill Broman
Atlantis Subsea Delivery Manager
GOM Deepwater
281-249-1337 office
william.broman@bp.com

****

Attention Atlantis Leads: We are in the process of close-out for the DC-1 original scope project costs and the issuance of all final documentum drawings to the operations group for these working assets. It is critical that before we issue these to operations that we QC them.

As we have discussed, there are some issues with drawings not being in compliance with project drawing numbering and tracking procedures, and the status of drawings by drill center is not complete. We intend to remedy these problems and bring the DC-1 drawings to a proper close-out by the end of February 09, and issue as-built drawings to operations at that time. To do so, we need help from the project teams and leads to complete the work scope. At the same time, it is our intent to also get the DC3, Water Injection, and SS2 documentum tracking and documentation back in sync with current drawing control procedures.

We have reviewed the below plan will Bill Broman and the Greater Atlantis Document Control team, and we have their endorsement. **This effort will require dedicated support from each of your teams to review and correct the spreadsheets (Tinikka has attached the spreadsheets below by lead and sector) showing the documents under your area. Our intention is to correct the drill center #, rev #, rev status, etc. during the next few weeks (scheduled completion date is 01/09/09).** Once we have the drawing data correct in Documentum, we plan to then issue documentum drawing schedules with required as-built drawing need dates for closeout for all documents for monthly status updating by the schedulers and leads.

Schedule for Documentum updates/corrections

11/24/08 - Tinikka Distributes Drawing Index to Leads, and begins meeting with Leads to explain input required as well as to help work sample corrections
01/09/09 – Leads & delegates Complete mark-up of Document Index with corrections and drill center # as required
02/06/09 - All corrections and drill center # attributes loaded into Documentum
02/13/08 - Summary drawing schedule to leads showing current drawing revision status and required issue date for all as-built drawings
02/27/09 - Final as-built drawings to Tinikka for all DC-1 drawings for issue to operations
??/??/09 – Final as-built drawings to Tinikka for all SS2, WF, DC3 drawings for issue

Supporting Facts

Today most documents that come to BP document control comes from Technip document control in the subsea drop box in Documentum. Once the documents are QC'd, we find several issues with the documentation that need to be resolved before loading into Documentum.

Problem

Many of the documents in Documentum are incorrectly numbered, titled, and or have wrongly identified or missing drill centers. This creates a problem for retrieval and the ability to handover accurate final as-built documentation to Operations.

Recommendation

BP Document Control will provide a spreadsheet for each lead with documents broken down by Sector.

A Document Status kick-off meeting will be scheduled with each of the Leads and/or Dedicated Representatives from each group for every document on the list to be reviewed and distinguish if the following attributes are correct. If they are incorrect, the leads (or designate) will need to correct them up on the spreadsheet for Tinikka to input into Documentum:

- Sector
- Discipline
- Document Type
- Area – Drill Center
- Revision
- Rev Purpose Code - Status
- Archival or Handover

Tinikka will work for a half-day with each lead (or designate) to show them what drawing fields on the list must be updated and to go through examples with them. The leads will then be responsible to complete the mark-up of their individual spreadsheets and return to Tinikka for input into Documentum by 01/09/09.

BP Document Control will begin to record the following attributes in documentum to allow for more enhanced search

capabilities.

- Originator/ Contractor Firm
- Transmittal number
- Contractor Document Number
- Status Code

Process

1. The Lead will receive the spreadsheet by **SECTOR.**

The first attributes to be reviewed are the Sector, Discipline, and Document Type. They need to be reviewed for accuracy and corrected as needed. These attributes have a lot of impact on how documents are filed in Documentum.

- Sector
- Discipline
- Document Type.

2. The next attribute to be identified is the **AREA - (drill center).**
The drill center will determine the next steps to take with the document.

Because we work in phases it is to our advantage to label the document by phase, if it's relevant, to the document for easier identification at handover.

Subsea All

- Documents that are common to all Drill Centers

- There should not be very many of these documents, and most documents should still have a specific sector other than 30.

- Most of these documents will stay with the project until the end of the job.

Drill Center 1 – South Flank

DC-1

- **Documents that illustrate what is currently installed and planned to stay unless other circumstances occur.**

- **These documents are a priority because most of these documents reflect what's currently installed and operating and need to be handover to Operations.**

DC-1 (SS-0)

- Documents that illustrate Original design / equipment that was removed.

- All of these documents will probably be archived.

DC-1 (SS1)

- **Documents that illustrate what is currently installed but planned to be removed by another**

phase.

- **These documents are also a priority because most of these documents reflect what's currently installed and operating and need to be handover to Operations.**
- **Some of these documents will be added to a cross-reference spreadsheet to ensure that they are superseded by the next phase documents and correctly numbered during the next phase.**

DC-1 (SS2)

- Documents that illustrate what will replace equipment that is currently installed
- These documents are still in review/comment status so any errors made can be corrected.

Drill Center 3 – North Flank

DC-3

- Documents that are assigned to Atlantis North Flank (ANF) Base Case.
- These documents are still in review/comment status so any errors made can be corrected.

DC-3 (Phase I)

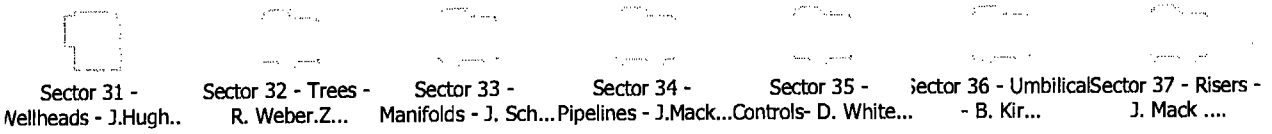
- Documents that is specific to ANF Phase I only.
- These documents are the next priority because some of these documents reflect what is installed but not operating. These documents are second priority on the list to be handed over to Operations.

DC-3 (Phase II)

- Documents that are specific to ANF Phase II only.
- These documents are still in review/comment status so any errors made can be corrected.

3. Now we can begin to check the **revision code** and **rev purpose code** *(status code)*.

4. In some cases the leads and/or Rep know if the documents are going to be **handover to Operations** or **archived deliverables.**
This step will allow us to prioritize correcting the handover documentation before the archival data.



Sector 70 -
Installation- J. H...

Pursuant to the Declaration of David L. Perry, Paragraph 7, the files attached to the preceding e-mail were not printed.

.xls Attachment Titles (some within ZIP files):

Sector 31 – Wellheads – J.Hughes

Sector 32 – Trees – R Weber

Sector 33 – Manifolds – J Schwebel

Sector 34 – Pipelines – J Mack

Sector 35 – Controls – D Whitehead

Sector 36 – Umbilical – B Kirkham

Sector 37 – Risers – J Mack

Sector 70 – Installation-J Hughes

Exhibit “D” to Declaration of David L. Perry (Part 2 of 2)

D

E-mail 35 of 61

Unknown

From: Kenneth Abbott [kwabbott@comcast.net]
Sent: Friday, February 27, 2009 3:57 AM
To: kwabbott@comcast.net
Subject: FW: Atlantis Document Numbering Procedure and Drawing Reviews/Approval by the leads

Attachments: 1400-10-AD-PR-0212.ZIP; 1440-10-PM-RP-0001 - Rev 3.ZIP

From: Abbott, Ken (SWIFT TECHNICAL SERVICES)
Sent: Wednesday, December 17, 2008 9:54 AM
To: Mack, John G; Malone, Ryan P; Jondle, John J; Whitehead, David K (Technip); Schwebel, John; Mack, John G; Hughes, John D; Weber, Rick G; Price, Mike (Clover); Broussard, Danielle M; Kirkham, Benny (BAMA); Broman, William H(HOU)
Cc: Curtis, Tinikka (NES)
Subject: FW: Atlantis Document Numbering Procedure and Drawing Reviews/Approval by the leads

Team - In a previous staff meeting, John Hughes had some questions re our project document approval process and numbering process. I have attached the previously issued procedures that show the process involved for your information and use. If you have any questions, please advise..

From: Abbott, Ken (SWIFT TECHNICAL SERVICES)
Sent: Tuesday, December 02, 2008 2:56 PM
To: Broman, William H(HOU); Curtis, Tinikka (NES)
Cc: Curtis, Tinikka (NES)
Subject: FW: Document Numbering Procedure and Drawing Reviews/Approval by the leads

Bill - as per your request in the staff meeting this morning, attached are the following two documents.

The first is the GOM standard procedure for numbering drawings.

The second is our Atlantis Project Execution Plan, and section 6.2 through 6.4 details the processes for the leads to review and approve drawings, and how they should be numbered.

1400-10-AD-PR-02
12.ZIP (128 KB...

1440-10-PM-RP-00
01 - Rev 3.ZIP...

Tinikka Curtis
Atlantis Subsea Project Team
Document Control

Tinikka.Curtis@bp.com
281-249-8978

bp

Gulf of Mexico
Deepwater Development Program

DOCUMENT NUMBERING GUIDELINE

DOCUMENT NUMBER: 1400-10-AD-PR-0212

REV	DATE	DOCUMENT STATUS	ORIGINATOR	CHECKED		APPROVED	
4	12/12/01	Revised for Consistency	SF	WRH		WCW	
3	10/15/01	General Revision – Update Sector, Discipline and Document Identifiers	SF	AF	PR	WCW	DER
2	08/23/01	General Revision – Updated Sector and Document Type Identifiers, Added Document Numbering Overview Chart,	SF	AF	PR	WW	DR
1	06/07/01	Approved for Use	GK	AF	PR	WW	DR
0	01/09/01	Issued for Review	GK	AF	PR	WW	RM
A	09/15/00	Internal Review	GK	SW		RM	

Document Control Number	Job Number	Area/Unit Designation	Discipline Code	Document Type	Sequence Number	Document Revision
	1400	10	AD	PR	0212	4

TABLE OF CONTENTS

1.0 SCOPE **3**

2.0 GENERAL / DEFINITIONS **3**

3.0 PROJECT COMMUNICATIONS **3**

3.1 Correspondence **3**
- **a. Project Numbers** 3
- **b. Sector Identifiers** 4
- **c. To / From Identifiers** 5
- **d. Correspondence Type Identifiers** 6
- **e. Sequence Number** 6
- **f. Sheet number for Multi-Sheet Documents** 6

3.2 Minutes of Meetings, Agendas and Non-Technical Document **6**

4.0 Transmittals **7**

5.0 TECHNICAL DOCUMENTATION **7**

5.1 Numbering 7
- **a. Project Numbers Refer to Section 3.1.a** 7
- **b. Sector Identifiers Refer to Section 3.1.b** 7
- **c. Discipline Identifiers** 8
- **d. Document Type Identifiers** 8
- **e. Drawing or Sequence Numbering** 9
- **f. Sheet Number for Multi-Sheet Documents Refer to Section 3.1.f** 10

5.2 Revisions **10**

5.3 Canceling Document Numbers **10**

Attachments:

	Attachment A	Minutes of Meeting
	Attachment B	Technical Document Transmittal
	Attachment C	Vendor Document Transmittal
	Attachment D	Correspondence Transmittal
4	Attachment E	Technical Document Numbering Overview

1.0 SCOPE

This procedure provides a uniform and consistent method for assigning document identification numbers on the BP Deepwater Development Projects for project transmittals, correspondence and technical documents. This procedure does not apply to Mardi Gras.

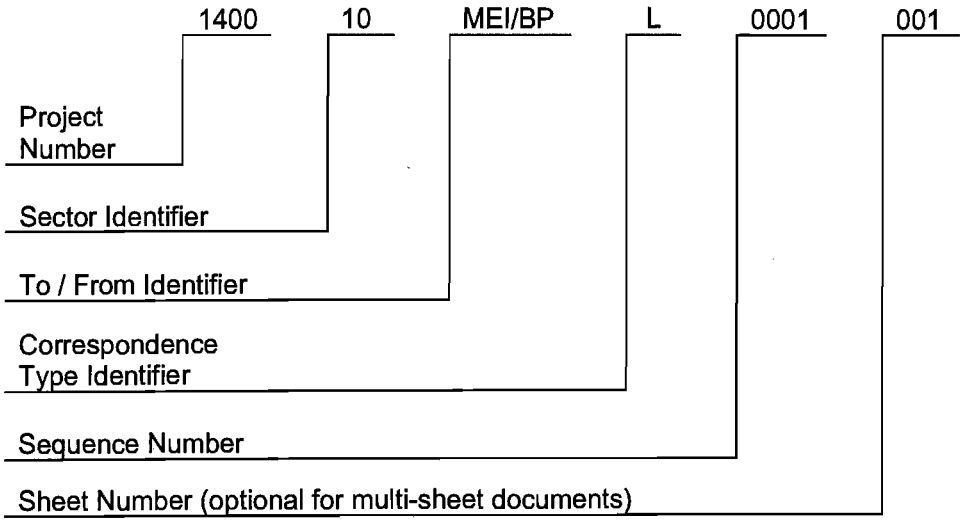
2.0 GENERAL / DEFINITIONS

- This numbering system is required for the BP Deepwater Development Program.
- All formal and informal documents distributed between BP, Contractors, Vendors, and other outside agencies will be assigned a document number in accordance with this procedure.
- The originator that initiates a document or correspondence is responsible for assigning the document number in accordance with this procedure.

3.0 PROJECT COMMUNICATIONS

3.1 Correspondence

- All outgoing correspondence and similar documents will be numbered per the following guidelines.



a. Project Numbers

A four-digit team or project number.

The following numbers have been assigned to the Deepwater Development Program:

4

- 1400 - PLT and PST
- 1410 - Thunder Horse Project
- 1420 - Holstein Project

- 1430 - Mad Dog Project
- 1440 - Atlantis Project
- 1480 – Mardi Gras Project

b. Sector Identifiers

A Sector Identifier is a unique identifier for project groups or components.

- 10 - General Project
- 20 - Topsides
- 4 25 - Integration
- 29 - Topsides Fabrication
- 30 - Subsea Well Systems (General)
  - 31 - Wellheads
  - 32 - Trees
  - 33 - Manifolds
  - 34 - Pipelines/Flowlines
  - 35 - Controls
  - 36 - Umbilical
  - 37 - Risers
  - 38 - Installation
  - 4 39 - Flexible
- 40 - Subsurface Well Systems (General)
  - 41 - Subsea Wellheads
  - 42 - Tree/Surface Wellheads
  - 43 - Risers
  - 44 - Production Riser Tensioning System
  - 45 - Drilling Riser Tensioning System
  - 46 - Well Bay Equipment
  - 47 - Installation
  - 48 - PRT Support System
  - 49 - Shipping and Handling Equipment
- 50 - Floating Systems (hull and mooring) (4)
  - 51 - CSO – Houston
  - 52 - CSO – Finland
- 4 60 - Drilling Rig

- 70 - Installation
- 75 - Drilling
- 80 - Export Systems
- 85 - Operations
- 90 - Subsurface
- 95 - Commercial

NOTE: The second digit of the Sector Identifier is available to refine the meaning of the identifier. Any such modification must be agreed in writing and documented through revision of this document.

c. **To / From Identifiers**

- First group of characters designates the addressee
- Second group of characters designates the originator.

Typical To / From Identifiers are listed below. Additional identifiers may be added as needed by project and other groups. The Lead Project Secretary will maintain the full identifier list to ensure no duplication of identifiers:

- ABB ABB
- ABS American Bureau of Shipping
- AEI Aker Engineering, Inc.
- AKM Aker Maritime
- AT Atlantis Team
- BP BP
- THT Thunder Horse Team
- FMC FMC
- GVA GVA Consultants
- HMC Heerema
- HT Holstein Team
- HIT Holstein Installation Team
- INTEC Intec Engineering
- LOC London Offshore Consultant
- JRM McDermott
- MDT Mad Dog Team
- MEI Mustang Engineering, Inc.
- MGT Mardi Gras Team
- MMS Minerals Management Service
- PARAGON Paragon Engineering

4

- PRIDE Pride Offshore
- PLT Program Leadership Team
- PST Program Services Team
- USCG United States Coast Guard

4
- KWT Keiwit
- DSME Daewoo
- EXMO ExxonMobil

Where the To / From identifier field is utilized for contracts or purchase orders, the four-digit order number will be utilized as the identifier.

d. Correspondence Type Identifiers

CT Correspondence Transmittal

EM E-Mail

F Facsimile

IOM Interoffice Memo

L Letter

MOM Minutes of Meeting

NTD Non-Technical Document

TCR Telephone Conversation Record

e. Sequence Number

Four-digit number starting with 0001 assigned for each correspondence type.

f. Sheet number for Multi-Sheet Documents

A multi-sheet document is a document that extends over a number of sheets. All the sheets will be reviewed and approved individually and each will carry a revision number.

Sheet numbers are assigned sequentially starting with 01.

A multi-page document that is issued, reviewed and approved as a single document does not require sheet numbers, although page numbers may be used for clarity.

3.2 Minutes of Meetings, Agendas and Non-Technical Reports

Minutes of meetings, agendas and non-technical reports will not have a to / from identifier. Minutes of meetings, agendas and non-technical reports will have a unique identifier at that location in the document number that will define the type of document. Listed below are some typical identifiers for minutes of meetings, agendas and non-technical reports:

- MON Monthly Meeting
- PRG Progress Meeting
- SCH Schedule Meeting
- TM Technical Meeting

- VD Vendor Meeting
- WKLY Weekly Meeting
- AG Agenda
- RP Non-Technical Report

An example of the minutes of meeting numbering is shown on Attachment A.

4.0 TRANSMITTALS

Transmittals of Technical Documents and Correspondence Documentation shall be numbered in accordance with section 3.1 except that the correspondence type identifier will be replaced with a transmittal type identifier as indicated below.

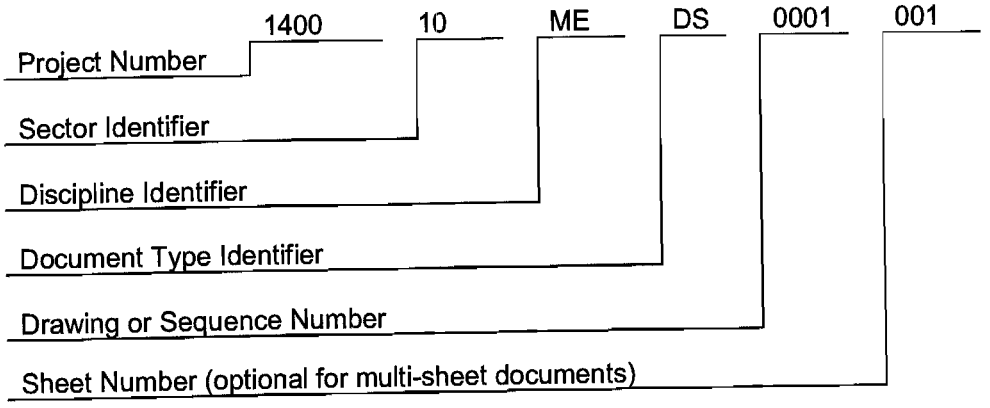
4

- T Technical Document Transmittal (Attachment B)
- CT Correspondence Transmittal (Attachment C)

5.0 TECHNICAL DOCUMENTATION

5.1 Numbering

All technical documents such as specifications, drawings, reports, etc. shall be numbered per the following guidelines: (Reference BP DWP – Technical Document Numbering Overview, Attachment E)



a. Project Numbers **Refer to Section 3.1.a**

b. Sector Identifiers **Refer to Section 3.1.b**

c. **Discipline Identifiers**

DISCIPLINE	IDENTIFIER	DISCIPLINE	IDENTIFIER
Project Management		Installation	
Administration	AD	Installation General	IG
Project Controls	PC	Installation Organization	HO
Financial	FN	Installation	HI
Assurance	AS	Marine Surveyor	MS
Interface	IF	Certified Verification Agent	CV
Information Mgmt	IM	Installation Equipment	HE
Project Management	PM	Installation Sketch	SK
Engineering		Contractual	CT
General	GE	Met-Ocean	MT
Process	PR	Dynamic Positioning	DP
Mechanical	ME	Tugs, Work Boats, AHTS	TU
Structural	ST	Barges	BA
Architectural	AR	ROV's	RO
Electrical	EL	Survey	SU
Inst. & Controls	IC	Ballast	BL
Fire & Gas	FG	Environmental/Regulatory	
Communications	CM	Environmental	EV
Marine Engineering	MA	Regulatory	RG
Naval Architecture	NA	Accommodations	AN
Piping	PI	Pipeline	PL
Hull	HL	Risers	RI
Drilling Systems	DR	Subsea	SB
Corrosion & Paint	CP	Flowlines	FL
Construction	CO	Manifolds	MN
Hook-Up & Commissioning	HU	Marine Outfitting	MO
Facilities Operations	OP	Mooring	MR
Drilling Operations	DO	Machinery/Utilities	MU
Health & Safety	HS	Stability	SY
Purchasing	PU	Hydrodynamics	HY
Quality	QA	HVAC	HV
		Weight	WT

4

d. **Document Type Identifiers**

Document type identifiers are as follows:

DB - Design Brief

4

PFD	-	Process Flow Diagram
PID	-	Piping & Instrument Diagram
DID	-	Duct & Instrument Drawing
ST	-	Studies
WC	-	Weight Control
SOW	-	Scope of Work
CR	-	Change Request
DSP	-	Decision Package
CP	-	Corrosion & Paint
UFD	-	Utility Flow Diagrams
DC	-	Design Criteria
DG	-	Drawing
DS	-	Data Sheet
SP	-	Specification
RP	-	Engineering Task / Philosophy / Report / Study
PR	-	Procedure
CA	-	Calculation
BOM	-	Bill of Materials
SK	-	Sketch
MA	-	Manual
LI	-	Lists / Indexes
EQ	-	Equipment List
BE	-	Bid Evaluation
MR	-	Material Requisition
INQ	-	Material Inquiry
PO	-	Material Purchase Order
CO	-	Purchase Order Change Order
VD	-	Vendor Data Requirements
IR	-	Inspection Requirements List
FM	-	Form
SCH	-	Schedule
SU	-	Submittals
TC	-	Comments to Technical Documents

4

e. **Drawing or Sequence Numbering**

A unique four-digit number assigned for each technical document. Each sector may choose to provide a block of sequence numbers based on disciplines or participating contractors within the sector. If this option is not chosen, the sequence number will be begin with 0001 for each technical document type.

For instrument or equipment data sheets, use the equipment/instrument tag number in place of the sequence number. For example, 1420-20-IC-DS-FV-2300.

Occasionally it will be necessary to prepare two data sheets for the same piece of equipment (i.e., centrifugal pump vs. reciprocating pump). The data sheets will be differentiated by a single digit sequence number after the equipment number (e.g., for pump service PBA-2300, the data sheet numbers would be DS-PBA-2300-1 and DS-PBA-2300-2). This practice shall only be employed during an RFQ cycle.

f. Sheet Number for Multi-Sheet Documents **Refer to Section 3.1.f**

5.2 Revisions

All documents will be issued with a revision number, which is not part of the document number. Revisions will be identified and controlled as specified in the contractors own engineering and design procedures.

5.3 Canceling Document Numbers

If an item is canceled, the document number is also canceled. After a document number is canceled, it may not be reassigned.

The original canceled document shall be marked "Void" and "See Drawing _____", and kept with the project records. The document register entry for the cancelled document shall be likewise annotated.

BP GoM
DEEPWATER DEVELOPMENT PROGRAM

17420 Katy Freeway, Suite 400
Houston, Texas 77094
Phone: (713) 350-7477 Fax: 713-350-7472
http://www.mustangeng.com

ATTACHMENT A

EXAMPLE

MEETING MINUTES

Meeting Purpose	**Weekly CH Topsides Status Meeting**	**Meeting Date**	**July 11, 2001**
Meeting Leader	**Larry Smith**	**Document No. 1410-20-WKLY-MOM-0009 Rev. 0**	
Meeting Scribe	**Larry Smith**		

ATTENDEES

Mark Doing
Pete LaCroix
Mike Carnahan
John Long
Angelo Accardo
Danny Howard
Laurie Erwin

Additional Distribution: **Mike Johnson, Frank Johnson, Lynn Johnson and Mark Johnson**

No.	Action By	Due	Action / Decision
01	L. Smith		Safety Minute – Vehicle Safety
02	L. Smith	Info	Overview of Topics discussed during the last meeting.
03	D. Smith		HAZID to be scheduled for the PFD's and Layouts for verification with original HAZID findings.
NEXT MEETING SCHEDULED:			**Thursday, July 19, 2001 1:00 – 3:00**

BP GoM DEEPWATER DEVELOPMENT PROGRAM			17420 Katy Freeway, Suite 400 Houston, Texas 77094 Phone: (713)350-7477 Fax: 713-350-7472 http://www.mustangeng.com
Meeting Title:	**Weekly CH Topsides Status Meeting**	**Doc. No:**	**Document No. 1410-20-PM-MOM-CH-007 Rev.0**

ATTACHMENT A (Continued)

ATTACHMENT B

EXAMPLE

BP Deepwater Development

16285 Park Ten Place, Houston, TX 77084
Phone: (713) 675-3400 Fax: (713) 215-8478

TECHNICAL DOCUMENT TRANSMITTAL

Date **24-July-2001**

Transmittal No.: 1420-20-HT/MEI-T-0004

TO: BP Deepwater Development
16825 Park Ten Place
Houston, Tx 77084

Attention: Distribution

Re: Client: BP
Project: GoM Deepwater Development Holstein Project

Project Number: 142001

Subject Holstein Spar Topsides Weight and C.G. Report

We are sending the document(s) listed below for the following
"Issued for Information"

Notes:
"Holstein Confidential Work Product"

Number of Copies						
FS	FSR	SD	Oth	Document No.	Rev	Title
0	0	0	0	1420-20-GE-RP-0002	F	Topsides Weight and C.G. Report

Sincerely yours,

Thomas A. Gauthey, P.E.
MEI Project Manager-Holstein

Distribution
MEI/Other

Document Control (1420) - MEI, (email)
Grogan, Don - BP, (email)
Brumbaugh, Scott - MEI, (email)
Hafner, Ray - BP, (email)
Szush, Jim - JRM, (email)
Hunteman, Jim - MEI, (email)
Alexander, John F. - MEI, (email)
Price, Howard - MEI, (email)
Baird, Alan - BP, (email)
Johnson, Hugh - MEI, (email)
Pardue, Lee - BP@CAMI, (email)
Dewalt, Ken - MEI, (email)
Emmerson, Tony - BPWL, (email)
Gauthey, Tom - MEI, (email)
Bowman, Dale - BP, (email)
Doing, Mark - MEI, (email)
Guidry, Mike - BP, (email)
Hartill, Kelli - MEI, (email)
Spittler, Sue - CAMI, (email)
Caulfield, Keith - JPK@CAMI, (email)
Zwerneman, Farrel - MEI, (email)
Crane, Tom - BP, (email)
Burger, Steve - BP, (email)
Raabe, Tom - MEI, (email)
Jones, Gary - MEI, (email)
Littlefield, Burt - BP, (email)
Glazener, Ed - MEI, (email)
Jerrols, Linda - CAMI, (email)
Cavalier, Tim - JRM, (email)
Hungate, Martha - BP@CAMI, (email)
Drozd, Jimmy - MEI, (email)
Mok, Jin - MEI, (email)

Client

Legend: FS - Full Size; SD - Shot Down (11 x 17); FSR - Full Size Reproducible
Oth - Other; Resp - Responsible Engineer

ATTACHMENT C

EXAMPLE

Mustang Engineering, Inc.
16001 Park Ten Place
Houston, TX 77084
Phone: (713) 215-8000 Fax: (713) 215-8506

Vendor Document Transmittal

Date: Date
Vendor Name
Vendor Address
Vendor Address

Attention: Name

Transmittal No.:1410-20-CHT/MEI-V-0698
Package: 1029
P.O.: xxxx-406.0-004

S.O.: 97264
Client P.O.:

Re: Client: Client Name
Project: Project Name
Project Number: 6420

Gentlemen:

We are sending you the following documents:

Qty	Vendor Dwg. or Doc. No.	Rev	Title	Applies to PO Item	Status

SEE ATTACHED LIST

STATUS:
1. Manufacturer may proceed.
2. Manufacturer may proceed. Revise then resubmit final documents.
3. Manufacturer may proceed as noted. Revise and resubmit for review.
4. Not Correct - Revise and resubmit.
5. Manufacturer may proceed. Review Not Required.
6. For Information Only.
7. Void

REMARKS:

Please note the addition of PSLL-4740-C to the instrument air header
This is an internal transmittal only

NOTES:

1. All changes or additions must be reflected in a revision block or drawing number by an appropriate revision indication.
All changes to be clouded.

CC: Richard Shirley - T, Mike Hunt - T, Rick Bauknight - X, John Kealey - X, John Bagby - X, Don Alexander - X

Betty Dawley
Document Control

ATTACHMENT C (CONTINUED)

Mustang Engineering, Inc.
Vendor Document Transmittal

Transmittal No.:	1410-20-CHT/MEI-V-0698	Package:	1029
P.O.:	XXXX-406.0-004	S.O.:	97264
Date:	Date		

Qty	Document	Rev	Description	Applies to PO Item	Status
1	97264-15B	6	P & ID DUCT BURNER SECTION		1
1	97264-15C	6	FLAME RELAY WIRING DIAGRAMS		1

ATTACHMENT D

EXAMPLE

BP Deepwater Development

16001 Park Ten Place, Houston, TX 77084
Phone: (713) 675-3400 Fax: (713) 215-8478

CORRESPONDENCE DOCUMENT TRANSMITTAL

Date: **17-October-2001**

Transmittal No.: 1400-10-PROJ/PST-EM-0011

TO:

Re: Client: BP
Project: GoM Deepwater Development

Attention: Internal Distribution

Project Number: 1400

CC:
David Randolph - BP, (email)
Martin Thomas - BP, (email)
Phil Wicks - BP, (email)
File Copy - 1400.10.100.115.01.07 (TM)
Walt Weathersbee - BP, (email)
Brad Smith - MEI, (email)
Mike McCrary - BP, (email)
John Stokes - BP, (email)
Danny Boardley - MEI, (email)
Gary Collins - BP, (email)
Bob Raiders - BP, (email)
David Wisniewski - BP, (email)

Additional Recipients:

Subject: PSM Meeting

We are sending the document(s) listed below for the following reason:

"Issued for Information"

Y:\1400\10- GP\100 -PM\115 -CORR\01 -INT\01 -MOM\1400-10-TM-Mom-0011

This email was sent out on 10/17 to the Internal Distribution

This email can be found in the Y:\ drive as email 0011

Number of Copies					
FS	FSR	SD	Oth	Document No.	Rev
1	0	0	0	1400-10-WKLY-MOM-001 1	n/a

Title: PSM Minutes of Meeting

Legend: FS - Full Size
FSR - Full Size
SD - Shot Down (11 x 17)
Oth - Other

Sincerely yours,

John Stokes
Facilities Leader

Printed on Thursday, Oct 18, 2001 @ 5:58 pm

BP DWP - TECHNICAL DOCUMENT NUMBERING OVERVIEW

Project No.	Sector	Discipline	Document Type	Sequence or Drawing No.	Sheet No.
1400	10	ME	DS	0001	1

PROJECT NUMBERS	
FLT, SCST, PST	1400
Thunder Horse	1410
Holstein	1420
Mad Dog	1430
Atlantis	1440
Mardi Gras	1480

SECTOR IDENTIFIERS	
General	10
Topsides	20
Integration	25
Topsides Fabrication	29
Subsea Wells System (General)	30
Wellheads	31
Trees	32
Manifolds	33
Pipelines/Flowlines	34
Controls	35
Umbilical	36
Risers	37
Installation	38
Flexible	39
Subsurface Well Systems (General)	40
Subsea Wellheads	41
Tree/Surface Wellheads	42
Risers	43
Production Riser Tensioning System	44
Drilling Riser Tensioning System	45
Well Bay Equipment	46
Installation	47
PRT Support System	48
Shipping and Handling Equipment	49
Floating Systems (hull and mooring)	50
CSO-Houston	51
CSO-Finland	52
Drilling Rig	60
Installation	70
Drilling	75
Exporting Systems	80
Operations	85
Subsurface	90
Commercial	95

DISCIPLINE IDENTIFIERS	
Project Management	
Administration	AD
Assurance	AS
Financial	FN
Information Management	IM
Interface	IF
Project Controls	PC
Project Management	PM
Engineering	
Architectural	AR
Communications	CM
Construction	CO
Corrosion & Paint	CP
Drilling Systems	DR
Electrical	EL
Fire & Gas	FG
General	GE
Hook-Up & Commissioning	HU
Hull	HL
Inst. & Controls	IC
Marine Engineering	MA
Mechanical	ME
Naval Architecture	NA
Piping	PI
Process	PR
Structural	ST
Installation	
Ballast	BL
Barges	BA
Certified Verification Agent	CV
Contractural	CT
Dynamic Positioning	DP
Installation	HI
Installation Equipment	HE
Installation General	IG
Installation Organization	HO
Installation Sketch	SK
Marine Surveyor	MS
MetOcean	MT
ROV'S	RO
Survey	SU
Tugs, Work Boats, AHTS	TU
Drilling Operations	DO
Facilities Operations	OP
Health & Safety	HS
Environmental/Regulatory (ER)	
Environmental	EV
Regulatory	RG
Accommodations	AN
Flowlines	FL
Hydrodynamics	HY
Machinery/Utilities	MU
Manifolds	MN
Marine Outfitting	MO
Mooring	MR
Pipeline	PL
Purchasing	PU
Quality	QA
Risers	RI
Stability	SY
Subsea	SB

DOCUMENT TYPE IDENTIFIERS	
Bid Evaluation	BE
Bill of Materials	BOM
Calculation	CA
Change Request	CR
Comments to Technical Documents	TC
Data Sheet	DS
Decision Support Package	DSP
Design Brief	DB
Design Criteria	DC
Drawing	DG
Duct & Instrument Drawing	DID
Engineering Task/Philosophy/Report/Study	RP
Equipment List	EQ
Form	FM
Inspection Requirements List	IR
Lists / Indexes	LI
Manual (or Plan)	MA
Material Inquiry	INQ
Material Purchase Order	PO
Material Requisition	MR
Piping & Instrument Diagrams	PID
PO Change Order	CO
Procedure	PR
Process Flow Diagrams	PFD
Schedule	SCH
Scope of Work	SOW
Sketch	SK
Specification	SP
Studies	ST
Submittals	SU
Utility Flow Diagrams	UFD
Vendor Data Requirements	VD
Weight Control	WC

BP

Well Systems Integration & Design Engineering

SUBSEA PROJECT EXECUTION PLAN

BP ATLANTIS CONFIDENTIAL WORK PRODUCT

BP Doc. No.: 1440-10-PM-RP-0001			**Doc. No.:** 3478-BPM-RA-0001			
Rev. No.	**Rev Date**	**Revision Description**	**Prep. By:**	**Technip Chk'd.**	**Technip Approved**	**Client Approval**
A	2/11/02	Program PEP	EHM	JLB	JLU	
B	8/29/02	For Review and Approval	JLB	CJR	CME	
C	4/22/03	For Review and Approval	AW	RKO	CH	SSW
0	10/29/03	For Information	RKO	JK	AW	SSW
1	11/09/04	Revised as Noted	AW	CG	AW	
2	1/19/06	Revised as Noted	AW	HW	AW	
3	11/06/06	Revised as Noted‡	PC	MV	AW	RM

FOREWORD

‡The PEP covers the Atlantis project as sanctioned which includes a single riser, flowline and single umbilical installation campaign. Revision 3 covers alternate installation campaigns and the Alternate Development Concept (ADC), also known as Subsea Systems Phase 1 (SS1), to allow for installation flexibility in response to current indirect factors and restraining activities so as to achieve 1st oil as scheduled as well as the future development in the form of DC 3 Atlantis North Flank. The provision of installation flexibility and future development of Atlantis Subsea includes the following options:

Prelay:

The prelay option was developed to allow for the selected riser flowlines early in the filed development to be laid and left on the seabed while waiting for the delivery of the PQ. Details of the prelay campaign will be included in Attachment 12 of this document as required.

Split Campaign

The spilt campaign was developed to further increase the installation flexibility, due to the availability of the heavy lift vessel (Balder) and other restraining activities. The split campaign would allow for 1st oil to be delivered from one half of the field followed as scheduled and at a later date with installation of the riser and flowlines for the remaining half of the field. Attachment 11 details the Split Campaign.

Atlantis North Flank DC 3

Development associated with the Atlantis North Flank (DC3) is covered in this PEP document with details found in Attachment 9.

Subsea Systems Phase 1(SS1) / Alternate Development Concept (ADC)

Following the discovery of potential welding issues with BP Thunderhorse manifold DC41, the Atlantis project team immediately initiated investigation and development of the ADC since the Atlantis manifolds and PLETs were welded with similar practices and procedures to those of the Thunderhorse manifold. As of October 2006, the ADC will be known as Subsea Systems Phase 1 (SS1). Attachment 13 will cover the specific PEP issues associated with the SS1. The SS1 details are documented in Attachment 13.

TABLE OF CONTENTS

1.0 EXECUTIVE SUMMARY - INTRODUCTION 6
1.1 Subsea System Project Overview 7
1.2 Scope of Work 8
1.3 Future Provision 10

2.0 HEALTH, SAFETY AND ENVIRONMENTAL PLAN 11
2.1 General 11
2.2 Formal Safety Assessment (FSA) Plans 11
2.3 Security Plan 13

3.0 PROJECT MANAGEMENT - ADMINISTRATION 16
3.1 Project Identification 16
3.2 Management Philosophy 18
3.3 Project Organization Plan 20
3.4 Correspondence 24
3.5 Project Document Control 26
3.6 Project Meetings 26

4.0 PROJECT MANAGEMENT - PROJECT CONTROLS 27
4.1 Project Controls Overview 27
4.2 Scheduling 27
4.3 Estimating 29
4.4 Project Services Plan / Cost Control and Forecasting 30
4.5 Change Control and Management of Change 32
4.6 Progress Measurement 32
4.7 Risk Assessment and Management 34
4.8 Reporting Requirements 38
4.9 Invoicing 39

5.0 QUALITY AND QUALITY PLAN 40
5.1 Quality Scope of Work 40
5.2 Quality Audits 41
5.3 Inspection and Testing 41
5.4 Corrective Action Process 42
5.5 Quality Records 42
5.6 Reporting 42
5.7 Quality Assurance Plan 43

6.0 TECHNICAL MANAGEMENT PLAN - ENGINEERING CONTROL 45
6.1 Engineering Scope of Work 45
6.2 Design Criteria Document 48
6.3 Engineering Deliverables Numbering System 49
6.4 Engineering Deliverables Preparation 49
6.5 Mechanical Equipment Numbering 49
6.6 Engineering Design Symbols 50
6.7 Design Reviews 50

6.8 Best Practices 51
6.9 Value Engineering Plan 52
6.10 Design Freeze Log 54
6.11 Areas of Concern - Critical Issues 55

7.0 INTERFACE MANAGEMENT 56
7.1 Interface Management Overview 56
7.2 Interface Management Scope and Objectives 56
7.3 Basic Tenets of the Interface Management System 57

8.0 PROCUREMENT AND PROCUREMENT PLAN 58
8.1 Procurement Scope of Work 58
8.2 Procurement Document and Material Control 58
8.3 Request for Quotations, Work Package Release and Requisitions 59
8.4 Bid Receipt and Evaluation 59
8.5 Purchase Order Award 59
8.6 Post Award Administration 60
8.7 Procurement Close Out Requirements 60

9.0 CONSTRUCTION PLAN 61
9.1 Construction Scope of Work 64
9.2 Constructability Plan 64
9.3 Contracting Plan 67
9.4 Project Management Plan 68
9.5 Operability 69
9.6 Transportation Plan 71
9.7 PQ Integration Plan 73
9.8 Offshore Installation Plan 73
9.9 Severe Weather Contingency Plan 76
9.10 Offshore Logistics 76
9.11 Subsea Commissioning and Start-up Plan 76
9.12 Operations Plan 76
9.13 First Year Production Efficiency Plan 77

ATTACHMENT 1 78
Atlantis Project Organization Charts 78

ATTACHMENT 2 83
Atlantis Key Representatives and Addresses 83

ATTACHMENT 3 84
Project Meetings Calendar 84

ATTACHMENT 4 85
Work Breakdown Structure (WBS) Diagrams 85

ATTACHMENT 5 86
Schedules 86

ATTACHMENT 6 ..... **87**
"BP Data Security and Information Brokering" 87

ATTACHMENT 7 ..... **88**
INTERNATIONAL TRAVEL REQUIREMENTS FOR CONTRACTORS" 88

ATTACHMENT 8 ..... **90**
BPs GOLDEN RULES OF SAFETY 90

ATTACHMENT 9 ..... **91**
DC3 Specifics 91

ATTACHMENT 10 ..... **99**
BP Atlantis Project Final Vendor Data Book Letter 99

ATTACHMENT 11 ..... **102**
Split Installation Campaign 102

ATTACHMENT 12 ..... **112**
Prelay 112

ATTACHMENT 13 ..... **114**
Subsea Systems Phase 1 (SS1) 114

1.0 EXECUTIVE SUMMARY - INTRODUCTION

The purpose of the Subsea Systems Project Execution Plan (PEP) is to define the strategy of the Subsea Systems Team in supporting the Atlantis GOM Deepwater Development Project on behalf of BP Exploration & Oil Inc. (BP) and BHP Petroleum (GOM) Inc. (BHP). This PEP for the Subsea Systems project complements and is subordinate to the overall Atlantis Project Management Plan (1440-10-PM-PR-003).

This plan is coordinated with the individual plans provided by the other major project teams, including the Floating Systems (comprising Hull and Topsides), the Wells and Operations Teams. In addition, this document is complemented by supporting plans provided by the prime contractors responsible for the design, supply and installation of the Subsea equipment. These individual PEPs complement the Subsea Systems PEP and are included as Appendices under separate cover.

All of the plans are written as point-forward, living documents and, as such, will be updated and distributed as major strategic issues evolve or change. The prime contractors will also maintain their individual plans and review and update these documents as the need arises.

The Subsea System associated with the Atlantis Project, together with the other major BP GOM deepwater projects (Thunder Horse, Mad Dog and Holstein) are being developed under various long-term contracts for engineering services and equipment. These contracts contain some commercial commonality and technical standardization features to ensure maximum cost effectiveness to BP. The overall project work is planned to occur in 3 distinct phases: Select Phase (Concept Development), Define Phase (FEED) and the final Execute Phase in which detailed engineering occurs and firm hardware orders are placed.

The Atlantis North Flank Single Well Tie-back Project, Project Execution Plan (PEP) (Define Phase), Document Number: 1440-10-PM-RP-0002 forms the basis for the development of the Atlantis North Flank single well tie-back. It includes the engineering, procurement, construction, and offshore installation activities required to tie-back and complete subsea production well (GC743#5ST) and to ensure the operability and expandability of the subsea system. Project scopes associated with the Atlantis North Flank single well developments are: drilling (tie-back) operations and completion of the well, installation of subsea tree, manifold, intermediate PLET, flowlines, jumpers, umbilical, and minor topsides control modifications. ANF/DC3 passed through the select / define gate by BP on 12/22/04 and by BHP on 10/05/05. It is expected that in Mar 06' Atlantis DC3 will pass through the execute phase. Document number 1440-30-PM-DSP-0209, North Flank (DC3) System Selection (Decision Support Paper 1) discusses the system options and configuration selection for the

DC3 development. It is planned for the ANF/DC3 Subsea team to operate in accordance with this existing plan, however it becomes necessary to be able to include additional information to the base case document and also highlight deviations (to this PEP) where they will exist, this will be achieved by marking paragraphs where changes are required and the specific ANF/DC3 changes will be captured in Attachment 9.

NOTE: A footnote will be added to paragraphs in this document with an asterisk to indicate where specific variations have been adopted for ANF/DC3 execution.

1.1 Subsea System Project Overview

Atlantis Field

The Atlantis Field is located along the Sigsbee Escarpment in Green Canyon Blocks 699, 700, 742, 743 and 744, approximately 190 miles south of New Orleans. The field is part of the Southern Green Canyon trend, lying adjacent to the Mad Dog and Neptune discoveries and to the south of Holstein. Mad Dog and Holstein are currently being developed and will also be operated by BP. The Atlantis discovery well, GC 699, reached total depth on June 6, 1998. The first appraisal well, GC 743 ST1, reached total depth August 22, 2000 and the second sidetrack was completed on October 15, 2000. A second appraisal well, GC 743 #2, reached total depth in August, 2001, and a sidetrack finished in October, 2001.

Atlantis will be developed using a moored semi-submersible as a production and quarters (PQ) facility with Subsea trees tied back to the PQ host using Steel Catenaries Risers (SCR's). The produced oil and gas fluids will be exported by means of the Mardi Gras 24-inch oil pipeline and 16-inch gas pipeline.

The overall development plan addresses the key reservoir uncertainties present at Atlantis: namely container size (STOOP), compartmentalization, reservoir energy and heterogeneity. To support the PQ host facility, a separate dynamically positioned (with mooring capability) long-term drilling unit (LTDU), known as the Development Driller II (DDII), operated by Global Santa Fe, will be contracted for all drilling, completion and well intervention work. In addition, the DDII will also be capable of installing seafloor equipment such as manifolds, production/water injection trees, etc. The production facilities will be designed for 150 mbopd*, 75 mbwpd produced water and 180 MMCFD total gas processing capacity. Of the 180 MMSCFD total gas capacity, 60 MMSCFD is designated for riser-based gas lift, to be available at field startup. Water injection capability of 75 mbwpd will be installed from First Oil. The PQ will have sufficient space and payload available for future expansion. Payload

* Upgraded to 200 mbopd; refer G. Sills letter 27 Sept 04, "Atlantis – State of the Project"

associated with the PQ for the subsea team is tracked by submittal of a monthly Weight Management report.

The Atlantis Field's current P50 estimated recoverable reserves for the Atlantis Sanction case are 560mmboe, which includes NGLs less fuel. The field will be developed with approximately 20 wells, within a range of 13 – 30 wells. The 20 wells include 16 producers and 4 water injection wells. Nearly every well will have a future re-completion or sidetrack capability. The Operator in its depletion plan envisions an average of approximately 16 mmboed/well activity. With the 560 mmboe reserve basis, the production plateau length is estimated to be 6 years. The pre-drill program of 5 wells (drill and complete) is scheduled to begin in 1Q, 2004.

Owners' Interests

Atlantis is a joint venture development; the partner's interest is BP (56%) and BHP Billiton (44%). BP is the operator of the overall development.

1.2 Scope of Work

The Subsea Team's scope of work includes engineering, procurement, fabrication and commissioning of the Subsea Production System. The specific responsibilities and roles of the Subsea System Team in bringing this equipment together are addressed in Section 6.1.

The Subsea trees will be connected to the wellheads with the flowline connectors connected to manifolds by means of rigid jumpers. Additional satellite production and water injection wells are planned to support the total production requirements. The production trees will be provided with remotely actuated adjustable chokes to provide flow and pressure control. The production manifolds will serve as gathering points for the production wells and a separate water injection manifold will distribute water to the injection wells. Each of the Subsea manifolds will be designed to serve 4 wells. Initially, four of the 4-well manifolds are planned but the ultimate number of manifolds will be dictated by the field reservoir requirements. All manifold* valves will be manually (ROV) actuated. The production, test and water injection headers of each manifold will be piggable. The design of the manifold has been carefully considered to minimize corrosion and the formation of hydrates. All production manifold headers will be insulated and the entire manifold structure will be cathodically protected for the 20-year design life of the Subsea system.

The trees will be operated by an electro-hydraulic multiplexed control system. Electrical power and control signals, hydraulic power and chemical supplies will be supplied to the

* The manifolds are modified in the ADC concept. See attachment 13 for the specifics.

trees through flying leads. A Subsea control module (SCM) will decode the electrical signals and direct hydraulic power to the various tree functions. The SCM will also receive the output of the tree's data acquisition system and transmit the information to the surface. The data acquisition system incorporates pressure and temperature transmitters, sand detectors, choke position indicators and flow meters (water injection trees). The SCM will be installable and retrievable underwater using a ROV actuated, wire line-deployable tool. All control functions will be controlled from the topside-installed Master Control Station (MCS).

The electrical and hydraulic umbilicals, flying leads and Umbilical Termination Assemblies (UTAs) comprise a distribution network for the Subsea controls system. They provide the power and control interfaces between the topside MCS, SCM and individual Subsea components.

The initial development phase of Atlantis envisions 4 production risers, 1 water injection riser and 1 test riser. All production and test risers are 10" in 16" Pipe-In-Pipe (PIP) design, incorporating a 10.75 in. OD X 0.75 in. WT thickened jacket pipe over a distance of 5,290 ft. below the hang-off and a subsequent 3,440 ft. of 1.25 in. WT thickened jacket pipe to a distance of a point 120 ft. beyond the TDP. All production flowlines and risers will be insulated and Vortex Induced Vibration (VIV) strakes added where necessary. Additionally, the risers will be fitted with buckle arrestors and cathodic protection anode bracelets where appropriate. A design life of 25 years has been used in the riser and flowline designs. All risers will be supported from the PQ host pontoon deck and terminate at the main deck where a diverter block, inclusive of an isolation valve, will be attached. The water injection riser is of simple monobore design, incorporating a 10.75" OD x 1.50" carbon steel WT pipe with VIV strakes and appurtenances as for the production and test risers.

The Atlantis Field depth ranges from 4,400 – 7,200 fsw and extensive use will be made of diverless systems and ROV interfaces. All major support operations for the Subsea system will be diverless. ROV interfaces will be provided on the Subsea equipment to facilitate installation, testing, operation and inspection. Where appropriate, running tools and/or surface wires will be used to install and retrieve Subsea equipment components.

In the event that installation cannot be conducted as per the base case schedule, a split campaign could be envisioned. Such a campaign will be conducted under the M.O.C. (Management of Change) requirements. Attachment 11 will described the Split Campaign installation implications, process requirements, Atlantis sub team buy-ins and approvals etc.

Additionally, a prelay campaign for the flowlines could be envisaged to capitalize on vessel opportunities due to any unforeseen delays to the Atlantis schedule. The prelay campaign is documented in attachment 12 in this document.

1.3 Future Provision

The Subsea Production system will be capable of being expanded to allow tie-in of future wells, manifolds, risers and flowlines, all feeding from identified or unidentified drilling sites. A total riser count of sixteen (16) will be within the capability of the host PQ vessel. In addition to the eight (8) base case umbilicals, the PQ will be capable of accepting an additional sixteen (16) umbilicals. This will total to a maximum of twenty-four (24) umbilicals as currently conceived for the Atlantis PQ.

Well 734-5 lies on the upper level of the Sigsbee escarpment in 5400 FSW, while Drilling Center DC1 lies to the south at the foot of the escarpment. ANF/DC3 is set up as a separate project within the Atlantis project. To capitalize on the expertise which is available within the subsea delivery team, ANF/DC3 will make use of standard Atlantis equipment where possible and exercise the synergies that exist within the current engineering and design team. The development of ANF/DC3 PEP attachment makes use of the present Atlantis Subsea PEP as a building block and incorporates ANF/DC3 specifics. These specifics will be captured and updated in Attachment 9 of this document accordingly.

2.0 HEALTH, SAFETY AND ENVIRONMENTAL PLAN*

2.1 General

This section describes the planned Health, Safety and Environmental (HSE) policies and procedures for the integrated Atlantis Subsea Team to ensure that the project's design, construction and installation activities are safe and environmentally sound. The policies and procedures are designed to meet all applicable government regulations and API recommended practices.

The Atlantis Project Subsea HSE Plan, BP document no.: 1440-30-HS-RP-0081 (Technip Document No: 3478-BHS-RA-0001), was developed for the Subsea Team to facilitate the implementation of Getting HSE Right (GHSER) and provide guidelines on how the project will attain the Best-in-Class health and safety performance throughout all phases of design, construction and transition into operations. The Subsea Project Health and Safety Plan provides the framework needed to enable the Subsea Team, including contractors and interested outside parties, to understand how health and safety is managed and delivered on the Atlantis Project, and how accountabilities are set out at various levels of management. The plan specifically outlines the following:

- Subsea Project HSE Organization and Responsibilities
- Hazard Assessment and Management
- Health and Safety Training requirements for Team Members and Contractors
- Safe Work Practices and use of Advanced Safety Audits (ASA) and the use of Safety Training Observation Program (STOP) cards
- Contractor Health and Safety
- Regulatory Requirements
- Environmental Policies
- Performance Standards and Document Control
- Crisis and Emergency Management
- Health and Safety Performance Monitoring

The Atlantis Subsea Project HSE Plan is considered a living document and is updated to reflect project stage changes.

2.2 Formal Safety Assessment (FSA) Plans

Hazard management will ensure that all HSE risks appropriate to each phase of the Atlantis Project are satisfactorily addressed. This effort will begin in the concept selection phase and

* See attachment 9 for ANF/DC3 specific requirements

mature progressively through detailed design, construction and operating phase. It will also incorporate consideration of future decommissioning and abandonment operations. The Atlantis Subsea Team will identify, evaluate, and manage HSE hazards to acceptably low levels of risk in accordance with the BP Hazard Management Strategy (1400-20-RP-6000).

Formal Safety Assessments (FSAs) are used to identify hazards associated with the Subsea equipment and to mitigate those Hazards on a cost/benefit basis. Beginning with a Define Phase preliminary HAZOP, the Project Team will conduct a variety of risk analysis reviews including:

- HAZOPs
- HAZIDs – Design Focused
- HAZIDs – Activity Focused
- SIMOPs Reviews
- Operability Reviews (included with HAZOPs)
- Peer Reviews
- Assurance Related Activities

All FSAs will be conducted in accordance with API RP 14J, "Design and Hazards Analysis for Offshore Production Facilities."

The output of these activities will result in a list of potential risks complete with a subjective rating of risk level and potential mitigation actions. A subjective risk reduction will be identified and tracked to closure with each potential mitigation action. These risk items will be delivered to the design teams for incorporation into the design as appropriate. Timing of these activities can be found in Table 2.2-1.

Table 2.2-1: MAJOR HSE ACTIVITIES

Description	Timing	
Preliminary HAZOP	March 2001	(Completed)
HSE Plan	Dec 2001	(Completed)
Subsea Execution Risks	Feb 2002	(Completed)
Operability Review	April 2002	(Completed)
Hazard Tracking Register	June 2002	(Completed)
Operability Workshop	August 2002	(Completed)
Main Subsea Hazop	Oct 2002	(Completed)
HSE Training	July 2002	(Completed)
Installation HAZID	Early 2004	(Completed)
Performance Standards	Integrity HAZAN	TBD

Table 2.2-1: MAJOR HSE ACTIVITIES		
Description	**Timing**	
Chain Jack SCR Pull-In Equipment HAZID	May 2004	(Completed)
Bayou Coating Risk Assessment (HAZID)	August 2004	(Completed)
Umbilical Installation HAZID	October 2004	(Completed)
Simultaneous Operations (SIMOPs)	December 2004	(Completed)
Manifold SIT HAZID	January 2005	(Completed)
Flowline & Riser Installation HAZID	January 2005	(Completed)
Bredero Lessons Learned Session – Thunderhorse and Mardi Gras Projects	February 2005	(Completed)
Umbilical Testing HAZID	March 2005	(Completed)
Umbilical Load Out HAZID	March 2005	(Completed)
Umbilical Installation Procedures HAZID	August 2005	(Completed)
Manifold Installation HAZID	October 2005	(Completed)
Tree and IWOCS Installation Hazid	October 2005	(Completed)
Jumper Fabrication Hazid	December 2005	(Completed)
Jumper Installation Hazid	January 2006	(Completed)
Flowline and Riser Acceptance Testing Hazid	January 2006	(Completed)
Subsea QA System Leak Test Procedure Hazid (Assurance)	January 2006	(Completed)
Remote Pull-In Hazid	January 2006	Completed)
Half Shell Handling Hazid	January 2006	(Completed)
Flowline & Riser Installation Lay & Pull-in Hazid	January 2006	(Completed)

2.3 Security Plan

The Atlantis Project Team will implement a Security Management System to assess and mitigate the losses associated with security issues. The objective of the Security Management System will be to:

- Protect people, property, information and reputation
- Minimize economic losses and business interruption

The Security Management System will be in compliance with all appropriate standards and develop individual and collective security awareness and responsibility. The Project Team will be fully responsible for supervision of its personnel to ensure that they strictly adhere to

all applicable security requirements. The Project Team will also ensure that the security systems of its contractors and suppliers are consistent with its own.

The Security Management System will address the following requirements for each individual asset:

People: The Project Team will have a program in place to create security awareness for the Projects own and associated staff as well as the contractor's own, subcontracted and associated staff. The program shall address appropriate protection measures relative to the execution of the work or to Project and contractor offices.

The Project Team will ensure that personnel who travel for the Project are covered by a travel management system (refer BP Travel Policy, Revised April 2001 and AMI-ST-HS-0029 Travel, Health, Safety and Security Guidelines). This management system includes preferred methods of transportation (e.g. approved airlines, ground transport services, etc.), and contingency plans in case of a security breach. The travel management system administrators have an ongoing process to identify and regularly review the nature of potential security threats and vulnerabilities, update security and contingency plans in response to changes in security risks and assist local authorities in the evacuation of personnel. All security breaches shall be reported to the Project within twenty-four hours. The Project Team may be required to file formal reports of such breaches or assist local authorities or investigation of such breaches.

Property: The Project Team will secure material assets (e.g. offices, installations, field sites). The measures will include perimeter security, access control, vital point protection and communications. Contractors shall have a security plan for all sites where Project work is to be performed. This program should include a 24 hour manned security entrance and exit and secured facilities for storage of equipment and materials or as deemed appropriate by the BP Leads and as approved by the Delivery Manager...

The Contractors will be responsible to demonstrate to the Project Team that all security risks that fall under the contractor's responsibility have been reduced to a level that is As Low as Reasonably Practicable.

Information: The Project Team will safeguard all information including that in electronic or written format. This includes the confidentiality, integrity and availability of information in all locations including the Projects own premises.

Project documentation security requirements:

All documentation is required to be labeled "Confidential Work Product" and is not to be disclosed to third parties. All members of the Atlantis project team will be kept updated on current project document locations for up-to-date access to relevant documents.

All employees and contractors are required to sign a "Confidentiality and Intellectual Property Agreement".

All employees receive a power point presentation entitled "BP Data Security and Information Brokering", herein contained as Attachment 6.

Access to documents (electronic and hard copy) will be controlled.

Reputation: The Project Team will ensure that the legacy from its operations will not adversely affect the reputation of BP or any associated contractors/suppliers.

Travel and Offshore Related Safety Issues

- Driving Safety
  As of January 1, 2005 the "BP Group Functional Standard – Personnel Safety – Driving" replaces the Group Road Safety Standard and supersedes the Golden Rules of Safety – Driving. Further information and mandates can be found in the "Driving Standard – Immersion testing Phase – Study Guide" – "10 Steps to Arrive Safely" which can be found on http://hsse.bpweb.bp.com/DrivingSafety/
- International Travel on Atlantis business requires the traveler have a Travel Health Assessment and recommended immunizations prior to travel.
- BP personnel traveling internationally on business are required to have Travel Health Assessments and recommended immunizations prior to travel. The WestLake 1 Medical Department provides the following resources to BP employees:
  - Medical Assessment
  - Immunization Review and Update
  - Country-specific Consultation
  - General Health Protection Consultation
  - Provision of a Travel Kit (charged to Traveler)
  - SOS Card
- Technip personnel are responsible for arranging their medical requirements through arrangements with Suburban Physicians Center (281-679-5600).
- Subsea team members traveling offshore shall be in possession of a valid "License-to-go-offshore" and Water Survival Certificate or training card.
- All contractor/vendor personnel working offshore on a BP facility are required to have completed Safegulf and BP 6-in-1 Training.

3.0 PROJECT MANAGEMENT - ADMINISTRATION

3.1 Project Identification

Unique project identifiers for the Deepwater Development program have been identified for each of the projects. These are listed below:

DW = Deepwater Development Program (includes FLT – Facilities Leadership Team; SCST: Standardization and Contract Strategy Team; and PST: Program Services Team)
TH = Thunder Horse
HO = Holstein Project
MD = Mad Dog Project
AT = Atlantis Project
MG = Mardi Gras Project
ANF = Atlantis North Flank

In addition, discipline identifiers to be used within the Atlantis project are listed below:

CM = Commercial
CP = Completions
DR = Drilling
FAC = Facilities
FS = Floating Systems
HSE = Health, Safety, Environment
HUC = Hook-Up and Commissioning
IN = Installation
OP = Operations
PM = Project Management
SC = Subsea
SS = Subsurface
TS = Topsides

The BP Project reference number for the Atlantis Project is 1440; the Technip project number for the Subsea portion of the project is 3478.

3.1.1 Goals and Objectives

The Subsea Systems Team goals and objectives are fully aligned with those of the overall Atlantis Project. These goals and objectives are partly expressed in the following:

Atlantis Project Business Goals

The primary business goal of the Atlantis project is to develop the oil and gas reserves discovered in the Atlantis fields in a safe, environmentally responsible, cost-effective and timely manner that maximizes the value to the Atlantis owners – BP and BHP Billiton.

Measures that will demonstrate success in achieving these goals are:

- Excellent HSE performance: no accidents, no harm to people, no damage to environment
- Development cost of less than $3.5 per barrel of oil equivalent relative to 2000 oil prices.
- Sustainable oil and gas production by 1Q, 2007
- High first year operability
- Pre-sanction by March 31, 2002
- BP sanction by December 1, 2002

Project Objectives and Drivers

Key project objectives have been derived from the business goals and are listed below to help drive decision-making. The overall driver for the project is to create value and the challenge to the Atlantis Project Team is to seek the right balance between the following objectives to maximize value:

- Schedule: Deliver production by 1Q, 2007 with high confidence.
- Schedule: Deliver production from ANF/DC3 by 3Q, 2007.
- CAPEX: Less than $3.50 per barrel for facilities and drilling costs relative to 2000 oil prices.
- Maximize first year operability and life cycle operating efficiency.
- Provide flexibility to deal with Atlantis reservoir uncertainty.
- Design for inherent health and safety.
- Utilize all Program synergies.
- Maximize delivery from wells at first oil.
- Provide step change in execution of safety performance.
- Establish operating phase strategies and metrics for life cycle performance.
- Design to minimize environmental impacts.

3.1.2 Project Mission

The Mission of the Atlantis Project is to plan, evaluate, design, engineer, procure, build, install and start-up a deepwater facility that can be safely and continuously operated to deliver oil and gas to the Mardi Gras Transportation System in an environmentally responsible manner. The project must meet Owner economic criteria that are impacted primarily by cost, time and production rates, and must meet product delivery specifications defined by the export systems. The project will also fulfill the expectations of "Getting HSE Right" (gHSEr).

3.1.3 "Subsea Team" Approach

The Atlantis Subsea Systems Team (SST) is committed to meeting the Project Goals and Objectives as described above most effectively by using a strong team approach, including and empowering not only BP Lead Engineers and Managers, but key representatives from the prime contractors. By building on the experience and past successes of each team member, we will employ these skills and tools to reach our primary Mission to design, engineer, procure, build, install and start-up the Atlantis Subsea equipment on time, on budget and in an environmentally responsible manner.

3.2 Management Philosophy

Current BP management systems and practices will be used to the fullest by the Atlantis Subsea Systems Team and will be exported to the extent possible to each of the prime contractors. These systems and practices include:

3.2.1 Capital Value Process (CVP)

BP has implemented a powerful management tool to plan, guide and document project decisions and considerations. The CVP includes the following major features:

- Planned stage gate dates (Select, Define and Execute)
- Risk and uncertainty assessments
- Peer reviews (Appraise, Select, Pre-sanction, Mid-term and Pre-startup)
- External Benchmarking
- Value improving practices

In addition to the CVP process, the BP Major Project Common Process (MPCP) was introduced in 1Q 2005 and will be implemented for the ANF/DC3 and follow on future Atlantis projects.

3.2.2 Continuous Improvement

BP's Continuous Improvement (CI) Process will be used by each of the project teams in the course of the work. The SST members will serve as facilitators at the team meetings of the prime contractors to implement this management technique or reinforce similar processes already in place.

3.2.3 Reward and Recognition

The BP system of Rewards and Recognition (R&R) has proven effective for the company as a whole and will benefit the Subsea Team and prime contractors as well. Superior performance and dedication is commended openly on a regular basis. Typically, tokens of appreciation will be given to commemorate team and individual contributions towards the completion of major or critical milestones.

3.2.4 Document Hierarchy

The following document hierarchy illustrates the management documents that will be used as tools for communicating internally and externally to the Atlantis Project Team:

- **Statement of Requirements (SOR)**, BP Document No. 1440-10-AS-DC-0001. The SOR is at the highest tier. It provides an overview of BP expectations from the Project Team and initiates the development of work and documentation to manage the project.
- **Design Basis (DB)**, BP Document No. 1440-30-SB-DC-0033. The DB defines what is to be built, is at the second tier of the hierarchy along with the Project Management Plan, Schedule and Organization Plan.
- **Project Management Plan**, BP Document No. 1440-10-PM-PR-0003. Contains the strategies for how to accomplish the project and the plans and procedures for processes that are common to all delivery teams of the project.
- **Project Schedule**, BP Document No. 1440-30-PC-SCH-0086. The overall Project Schedule organizes when the scope of work and deliverables need to be done and shows the dependencies of one delivery team on another.
- **Project Organization Plan**, refer to sections 3.3 through 3.6 of this document. The Project Organization Plan defines who is accountable for the work and how they relate to one another.

The documents in the third tier represent the level of detail needed by the Project Team and its contractors. These include:

- Design Criteria
- Project Execution Plans
- Detailed Schedules

- Organization Plans

3.3 Project Organization Plan

Project organization charts are presented in Attachment 1 – Atlantis Project Organization Charts. Both position titles and names of assigned individuals are shown. The following organization charts are included:

- Atlantis Subsea Project Team
- Atlantis Subsea Riser/Flowlines & Installation Team
- Atlantis Facilities Team
  - Atlantis Floating Systems Team (Team has been diluted and Chart Removed as PQ has been delivered effective 3Q 2006)
  - Atlantis Project Services Team (See Atlantis Project Team)
- Atlantis Leadership Team See Section 3.3.2

3.3.1 Project Organization Plan

The Atlantis Project is managed as a whole by the Integrated Project Team (IPT) that fully engages the talents of the people from the Owners and all the Contractors employed to design and execute the project. The philosophy of "best player plays" and open and honest communication should prevail within the team. An atmosphere of encouragement, inclusion and cooperation must emerge so that all team members are contributing their fullest effort toward achieving objectives that they both understand and agree with.

3.3.2 Atlantis Leadership Team (ALT)

The Atlantis Project General Manager and single point of accountability is Greg Sills. In addition to Greg Sills, the following individuals comprise the Atlantis Leadership Team:

Name	Designation
Dan Elmer	Commercial Manager
Mike Walters	Commercial Negotiator
Keith Mouton	HSSE Team Leader
Cynthia Hammer	Controller
Jill Harig	HR Advisor
Gary Imm	Deputy Project and Offshore Coordination Manager
Dirk Smit	Integration / Installation and Offshore Hook-up Project Manager
Rick Oneto	Operations Supervisor
Jon Sprague	Drilling and Completions Manager

Pramod Singh	Subsurface Manager
Bill Naseman	Project Services Manager
Gene Hall	Subsea Manager
Steve Pastor	Integration Installation Manager (Task Completed, Team Disband following delivery of PQ)
Terry Woods	Administrative Assistant
Charlene Shen	Atlantis Phase 2 (Including ANF/DC3) Project Manager
Donnie Carter	Engineering Authority

The Subsea Systems Delivery Manager for the Atlantis Project is Gene Hall who reports to Greg Sills, Project General Manager.

The Organization Chart for the ALT is also contained in Attachment 1. The organization chart for the Atlantis Flowlines and Riser Group chart is contained in Attachment1-1 and the ANF/DC3 chart is contained in attachment 1-2.

3.3.3 Subsea Systems Organization by Workscope

The Subsea Systems overall workscope consists broadly of the design and supply of all Subsea equipment identified in Section 1.2 – Scope of Work. This effort has been divided into several major workscopes as noted in Table 3.3-1 below. (This table illustrates the workscope of each team as the project moves through various project phases, i.e. from engineering to fabrication and through installation. Separate installation, commissioning and operational plans are discussed in Section 9.0.)

Table 3.3-1: SUBSEA TEAM WORKSCOPE RESPONSIBILITIES

Contractor / Subcontractor	Workscope Description
Technip Offshore, Inc. The major technical support to BP has been provided by Technip under the terms of a Frame Agreement (Well System Integration and Design Engineering Services Contract, No. BPA-00-01772) established in January, 2001. The scope of work specified in that contract includes:	Provide integration and design engineering support during all phases (Select, Define and Execute) of the project Integrated schedule, planning and progress reporting General administrative support Procurement support and material control Document control Quality assurance and control support Project procedures and administration Management of change support Cost estimating support Interface management HSE support Preparation of information as directed

Contractor / Subcontractor	Workscope Description
FMC Corporation	Detailed design – Subsea equipment Wellhead equipment Subsea tree systems Subsea manifold systems PLET assemblies Flowline jumper assemblies Subsea control system Topside controls equipment ROV docking and interface tooling
NEXANS	Umbilical Engineering and Fabrication
Subsea 7	Umbilical Installation
Sumitomo	Supplier for Flowlines And Riser Pipe
Granherne	Flow Assurance studies
Sonsub	ROV tooling & services
Fugro Survey services/Geoscience Earth and Marines Services	Geotechnical surveys
Global Sante Fe	Drilling, completion and subsea construction services
Heerema	Flowline & riser installation

The organization charts for the Atlantis Project, including key individuals from the prime contractors are included in Attachment 1.

Roles and Responsibilities[†]

The Subsea Team (SST), acting as the Subsea equipment general contractor, will provide the technical leadership and resources necessary to complete the work outlined in the SoR and individual equipment Functional Design Specifications (FDS). Within the SST, specific BP Lead Engineers will be assigned for each major discipline area. These Lead Engineers will be supported as required by Technip and FMC technical teams.

As the strategic link to the PQ Floating Systems (topsides and hull teams), the SST will provide the necessary interface information for all critical items. The BP Lead Engineers responsible for contracted work scope serve as the focal point for all aspects of the work being performed.

The prime contractors are responsible for the work identified by the scope of work of their respective contracts as it relates to the project. They are also responsible for subcontracts pertaining to the project where major interfaces or direct connections exist between their equipment and the specific subcontract. Prime contractors are chosen on the basis of their

[†] See Attachment 13 for ADC Specifics

technical and project management skills and their commitment to providing long-term service to the Atlantis project. They are accountable for the overall engineering, construction and testing of the various components defined by their contracted scopes of work.

Project Boundary Conditions

The following are boundary conditions or "givens" that each Atlantis Team needs to recognize and work within:

The BP Capital Value Process (CVP) will be used as a framework to organize the project into stages of work and deliverables necessary to make decisions to proceed from one stage to the next. This process is to seek alignment with BHP Billiton's Tollgate project management process. In addition to the CVP, the BP Major Project Common Process (MPCP) also applies.

The Owners will make economic decisions in compliance with their internal criteria, which for BP is GIAPPS.

The HSE objectives of the project will be achieved by vigorously implementing document management systems to meet the expectations in gHSEr.

A Plan of Development will be submitted to the partner, BHP Billiton, for approval. A plan for the ANF/DC3 development will also be submitted to the partner BHP Billiton for approval. In addition, a plan for ADC will be submitted for approval.

The Subsea Team will support preparation of required AFEs and will comply with them on approval.

Others will transport oil and gas production to market.

Project Offices And Facilities

The BP and Technip Subsea Team will be housed in the Energy Tower Building, 11700 Old Katy Road, Houston, TX.

Services for the BP Atlantis Subsea Project will be performed on the 4th and 5th floor of the Energy Tower Building and will include all necessary office space for the assigned BP and Technip Subsea Team.

Planning and administrative support services will be part of the overall project team. At contract award, all necessary floor plan layouts, computers, copying equipment and IT system services will be identified and ready for implementation. .

The office facilities will include the following:

- Each team member shall be provided with an office containing furniture consisting of a desk, desk chair, reference table, 2 guest chairs, book shelves, lockable file cabinet, whiteboard and telephone with voice mail.
- Conference room(s) available with table and chairs for 10-12 people with access to larger rooms when required.
- Kitchen facilities
- Contractor-supplied coffee and tea supplies
- Covered parking
- Photocopiers and paper supplies
- Dedicated fax machine
- LAN printers including access to color printer when required
- Access and use of building services

Support staff, including project secretaries, for BP will be provided by Technip per terms of the contract.

3.4 Correspondence

3.4.1 General

By definition, project communications is any written or electronic correspondence that includes letters, memos, facsimiles, e-mails and meeting minutes, both incoming and outgoing, on the project.

As the Atlantis Project progresses, the correspondence procedure is sufficiently flexible to change and/or expand to meet any changing needs of the project.

The objectives of the correspondence procedure are:

- Effectively manage the flow and storage of incoming and outgoing communications generated by the project.
- Provide consistent identification, capture, control and storage of pertinent documents.
- Provide an effective means to store and receive needed information throughout all phases of the project.

Subsea System Team Members are responsible for understanding the correspondence procedure and using the system. Team members are responsible for determining which correspondence should be filed and for assigning an appropriate file number.

3.4.2 Correspondence Approvals

The BP Subsea Delivery Manager or designated discipline lead will be responsible for approving all official outgoing correspondence. In an event of an absence from the Project Team, a signed Delegation of Authority memorandum will be on file.

3.4.3 Correspondence Numbering

A Correspondence Numbering Procedure has been developed to provide a consistent numbering system for the control of all communications received by, or generated during the progress of the Atlantis Project. Accordingly, all correspondence should be assigned numbers using the system described in the Technip Correspondence Numbering Procedure (3467-ST-PM-0004).

3.4.4 Correspondence Log

CorrCon is the database used to record (log) and track official project correspondence. The appropriate Delivery Team Project Secretary, upon instructions or receipt of project correspondence from the Project Team, will enter the appropriate data into CorrCon, ensuring that the log identifies documents by an assigned document number.

E-Mail

Technip's Lotus Notes Administrator has set up a project specific Lotus Notes Correspondence database into which all project related email shall be stored. In order to send email to this database, users must "forward" incoming e-mail and copy outgoing e-mail to address "3478". This action will result in outgoing and incoming e-mail then being placed in the "Unfiled" section of the database. Each team member is then responsible for ensuring the appropriate subfolder is selected for each email.

3.4.5 Correspondence Transmittals

Correspondence transmittals are obtained from the Project Secretary. These unique transmittal numbers are generated by the automatic logging and numbering database CorrCon.

3.4.6 Correspondence Distribution

All communications will be distributed according to the assigned code, logged into the correspondence database (CORRCON) and filed in the Project Files by the Project

Secretary. This process is described in the Technip Correspondence Numbering Procedure (Doc. No: 3467-ST-PM-0004).

3.4.7 Filing System

Project Secretaries are responsible for developing an appropriate Project File and ensuring that correspondence is being properly filed. Email correspondence filing is the responsibility of individual team members.

A Project File Index will be developed and maintained at the Program Level by the Project Administration Coordinator. Any changes to the Project File Index will be requested through the Project Administration Coordinator. Such changes will also be reflected in the Email File System as well.

3.5 Project Document Control

The Document Control Administrator is responsible for maintaining and updating the file system as pertains to technical documentation, ensuring that effective communications between other Atlantis Teams are properly distributed and filed. Document control procedures will be standardized across the Atlantis Project to provide continuity, uniformity and traceability of all documents through a common index system. Where possible, tagging and drawing block titles will be standardized across the project to facilitate rolling results into the completed file of "as-built" drawings.

The Subsea Systems Project Secretaries will establish and maintain a project distribution matrix to ensure that all Subsea equipment-related documentation is distributed to the appropriate project teams. All communication generated by the project team shall be distributed in accordance to the distribution code assigned by the owner of the correspondence. The distribution code will be provided on the distribution matrix to ensure that technical documents are properly identified and distributed to the required individuals by the Document Control Administrator.

3.6 Project Meetings

Meeting Minutes will be filed, distributed and maintained in the same manner as Project Correspondence. The Project Secretary will assign a unique indexing number to each Meeting Minutes document using the CORRCON database as described in Section 2.4.6. Meeting Minutes will be filed in the Project Files that are maintained by the Project Secretaries.

4.0 PROJECT MANAGEMENT - PROJECT CONTROLS

4.1 Project Controls Overview

This section addresses the strategy and processes the Subsea Systems Team (SST) will use to complete the assigned scopes of work in a timely, cost-effective manner so as to facilitate the scheduled progress of prime contractors and other project groups while having a positive impact on the overall project economics. The resources of the SST will be directed toward successful integration of the work with the other sub-project.

4.2 Scheduling

The Atlantis Subsea Systems Scheduler will be responsible for developing the Subsea Systems schedule using information and data from the respective discipline Lead Engineers. This schedule will include all core equipment development schedules and all relevant subcontractor schedules to achieve the following objectives:

- Integrate all Subsea Systems activities so that the work can be executed in a manner that optimizes project resources.
- Provide Project Managers and Lead Engineers with the information necessary to manage the project within the project milestones.
- Define an integrated baseline plan which is logically linked, duration-based and achievable within the project milestones.
- Provide information to the Project Managers to ensure that the work is being completed at or below the control budget.
- Provide a Level 3 schedule that integrates smoothly into the overall Atlantis Project schedule.

The Primavera Project Planner (P3EC), Version 4.2 scheduling software will be used by the Subsea Systems Scheduler. It is the responsibility of each Atlantis vendor to develop and update its individual work schedules to at least a Level 3 and report that regularly to the Subsea Systems Scheduler. Using the vendor schedules, Technip will be responsible for integrating all Subsea Systems-related schedules and reporting schedule status and performance against the Baseline Plan.

The Technip procedure for schedule development within the BP Deepwater Program will be AMI-PR-EP-0003, which includes Schedule Hierarchy, Schedule Development and Schedule Updating.

4.2.1 Schedule Hierarchy

Project Master Schedule (Level 1) -Management executive summary schedule of major activities for overall project status.

Project Summary Schedule (Level 2) –Project overview for project management and client review to include mid-level activities.

Project Coordinated Schedule (Level 3) – Overall project coordination schedule relative to the Baseline Plan.

Discipline Schedule (Level 4) - A tool for scheduling and progressing detailed work activities at the discipline / subcontractor level.

Detailed Work Activity Schedule (Level 5) - A tool for planning daily activities and the basis for calculating earned value at the discipline level.

4.2.2 Schedule Development

Schedules will be prepared using the project-approved WBS as the basis. The Subsea Systems schedule will be developed to include Level 5. All vendors and subcontractors shall provide their individual schedules to at least a Level 3 as a minimum.

The Subsea Systems Scheduler will integrate all subcontractor schedules into an overall project coordinated Level 3 schedule that will be submitted to BP for inclusion into the overall Atlantis Schedule.

*A separate ANF/DC3 schedule shall be developed and maintained and will be capable of integration into the overall Atlantis schedule.

4.2.3 Schedule Updating

Schedule updating will occur on a regular monthly cycle. The resulting updated Subsea Systems schedule will be a tool to identify potential areas of concern and permit timely action to avoid or mitigate their effects. The updated Subsea Systems schedule (Level 1) will become a part of the regular Subsea Systems Monthly Progress Report.

The Subsea System Project Scheduler will use the deliverables lists supplied by the discipline Lead Engineers as the basis to develop a Subsea Systems Project Schedule (Level 5) using the Primavera project scheduling software. This schedule will be used by the individual discipline Lead Engineers as one basis for measuring their progress (see

* See attachment 9 for ANF/DC3 specific requirements

Section 4.6 for additional Progress and Performance Measurement. The Subsea System schedule will also be integrated into the overall Atlantis Project Schedule (Attachment 5).

The major events and key milestones for the Atlantis DC1 Subsea System project are given in the following Table 4.2-1. A similar table 4.2-3 is included in attachment 9 to illustrate ANF/DC3 milestones.

Table 4.2-1
KEY SUBSEA SYSTEMS MILESTONES

Milestone or Event	Date
Complete Concept Development (Select Phase)	Dec 2001
Complete FEED (Define Phase)	Jul 2002
Start Execute Phase	Apr 2002
Start Subsea Equipment Fabrication	May 2002
Start Pre-Drilling Program	Feb 2004
Start SIT Testing	Jan 2005
PQ Offshore Hookup	Sept 2006
Install Subsea Equipment	Sept 2006
Install Flowlines & Risers	Jan 2007
Install Umbilicals	Dec 2007
Commission Subsea System	Feb 2007
Deterministic First Oil	1Q 2007
Sanction First Oil	1Q 2007

Attachment 5 contains a selection of schedules current with the revision date of this plan. Following the material/weld failure on the Thunderhorse manifolds which resulted in the Atlantis manifolds being recovered, the ADC was initiated. The latest schedule is included.

4.3 Estimating*

The initial cost estimates for the Subsea Systems budget were prepared during the early Select Phase of the project. Subsequent revisions were made in April, 2002 and the final Pre-Sanction budget estimate was submitted in October, 2002 and sanction approved in December 2002. Subsequent to this, major budget reviews occurred with a complete "bottoms up" analysis in June 2004, resulting in our current forecast. During each revision, updated equipment configurations and field architecture layouts were considered in detail.

* See attachment 9 for ANF/DC3 specific requirements

Each sector of the project is expected to produce high quality estimates to support the budgeting and cost development of their respective portion of the Deepwater Developments. All estimates shall follow the BP Cost Breakdown Structure Template. ANF/DC3 cost build up to pass the define gate by March 2006.

Hidden contingencies are not allowed. All estimates must be on a BP cost basis with contingency as a separate identified category. Contingency development and determination must be reviewed and approved by the appropriate Delivery Manager. Any reduction to established and agreed upon contingencies shall be documented and a history maintained for record purposes.

4.4 Project Services Plan / Cost Control and Forecasting*

(The current Atlantis Project Services Plan can be found in Document 1440-10-PM-PR-007 Rev. A.)

Cost management is a critical element within the overall responsibility of the Atlantis management team. Section 4.4.1 of this document outlines the CTR and employee timesheet process as a means of identifying and controlling Technip engineering costs. The responsibility for overall project costs is shared between the Subsea Systems team and other delivery teams (Hull, Topsides, etc.).

The ANF Single Well tie-back Project moved through the stage-gate from Select (Conceptual Engineering) to Define (Basic or Preliminary Engineering) in October 2005 as approved in the sanction document DWP-FM-2005-89. The current schedule indicates the end of 1Q2006 for Define to Execute stage-gate, and 4Q2007 for Execute to Operate stage-gate. The project scope was defined in the sanction document and this will form the baseline for project execution. To the extent possible, project services process and procedures already in place for Atlantis South will be used

BP has established a database that runs on the various networks and provides sufficient information to support generation of financial reports, forecasts, trend analyses, project budgets, and cash flows. These databases will generate reports that are linked in several useful ways to present current project cost information. CostMANAGER is a software application used to document, monitor and manage total project life cycle costs against work breakdown structure (WBS) numbers. Further this application is used to produce monthly reports that are provided to Atlantis partner, BHP.

* See attachment 9 for ANF/DC3 specific requirements

The Subsea Systems cost management system produces the following reports on a weekly and/or monthly basis as appropriate:

- Project Budget Projection
- Labor Detail Report
- Manhour, Progress and Productivity Report
- Labor Cost Curves
- Actual Cost to Date vs. Earned Value
- Forecast at Completion vs. Budget
- Invoice Support Data (labor and expenses)

Plans for HSE, Risk Management and Value Engineering, which play critical roles in cost control, are covered in Sections 2.0, 4.7 and 6.9 of this document.

4.4.1 Engineering Manhour Control

Personnel Assignment Approval Form (PAAF)

The Senior Cost Control Coordinator for the project will develop an appropriate PAAF form and system for recording all assigned personnel approved to work on the Atlantis Project. The PAAF form includes specific personnel data such as title and cost rate. Prior to any Technip staff working on the Subsea Systems project, an appropriate PAAF must be prepared then reviewed and approved by the BP Subsea Systems Delivery Manager.

As individual staff are approved and assigned to the Subsea Systems Team, a PAAF will be completed and approved, then added to the project PAAF register. The PAAF register will be submitted for BP approval.

The basic control means to be used by the Subsea Systems Team on Atlantis will be the "Cost, Time, Resource" (CTR) task planning form. Each discipline Lead Engineer will prepare CTRs that will define the specific workscope to be worked during each phase of the project and as approved by the BP Lead Engineer. The sum of the CTRs will represent the engineering budget for that phase of the project. The CTRs will be identified and numbered per the approved project Work Breakdown Structure (WBS), reference Attachment 4, and will divide each workscope into manageable and deliverable tasks. The completed CTRs will be reviewed and approved by the respective discipline Technip Lead Engineers, BP Leads and Technip Project Manager with final review and approval by the BP Subsea Systems Delivery Manager or BP Project Engineer.

The Technip Project Cost Coordinator will input the approved CTRs into the Project Manhour and Cost Control System by WBS number. This will establish the manhour base

for both the cost and schedule tracking. The WBS numbers, descriptions and start and finish dates will be downloaded to Primavera Project Planner (P3), Version 3.0 or P3e/c.

Using the CTRs, and in conjunction with the Project Manhour and Cost Control System, the Project Cost Coordinator, under the direction of the Technip Project Manager, will develop the engineering manhour planning sheets. This will be done using the start and finish dates on each CTR to allocate the manhours over the time frame of the work. These planning sheets will be the basis for specific project manhour and cost S-curves.

4.5 Change Control and Management of Change

The Subsea Systems Team will control any major changes in the Subsea equipment using the BP Change Control Procedure No. 1440-10-PM-PR-0255. The Change Management System will identify record, evaluate, control and document any major changes initiated by the BP or Technip Lead Engineers.

The Change Management System includes the following elements:

- Scope of change to be made
- Steps to implement the change
- Responsibilities, verification, measurement and feedback inputs
- Necessary forms to complete the process

4.6 Progress Measurement

Progress reporting by the Subsea Systems Team will be accomplished weekly by the individual discipline Lead Engineers, with these inputs being reviewed and integrated into the monthly Project Status Report. These reports will contain current status with identification of any technical, budget, schedule or other concerns.

The Subsea System Monthly Progress Report (Document 3478-XX-B-P-0055) will provide the current status of key cost, change, schedule, safety, quality, areas of concern and other information needed to keep BP and BHP Billiton appraised of the project status. It will also provide early warnings in all areas of concern that could impact either project cost or schedule.

Details of the Subsea Systems progress measurement are captured in Section 4.2.3, in particular, the Project Schedule (Level 5) and the monthly Document Progress Report.

The Subsea Team will make continuous use of several methods of measuring its progress and performance. Several of the activities noted above (Sections 4.2,4.3 and 4.4) will be used on a regular, scheduled basis. Other powerful means that will be used include:

- Weekly Status Meetings and Reports. Each week the Subsea Team will meet and report, by technical discipline, the status of the individual equipment areas. Each BP Lead Engineer or his/her representative will report on the prior week's achievements, current planned activities and any problems encountered. This forum will also be used to discuss critical interface issues. On a more formal basis, the Subsea Team and all project contractors will produce a Monthly Status Report that will document all noteworthy information for the month.

- Schedule Reviews and Updates. Each week the Subsea Scheduler will receive detailed schedule inputs from each discipline engineer that will be used to update the Subsea Project Schedule on a consistent and regular basis. As described in Section 3.6, this Primavera P3 – supported schedule will be produced with Levels 1 thru 5 detail, and also be integrated into the overall Atlantis Project Schedule produced by Mustang Engineering. The regular and detailed schedule reviews by the Lead Engineers ensures that timely and accurate scheduling information is available.

- Cost Management and Control. Using an established cost control system, the Subsea Team will have available monthly cost and labor reports to measure its progress and performance against planned objectives. These reports include:
  - Project Budget Projection
  - Labor Detail Report
  - Manhour, Progress and Productivity Report
  - Labor Cost Curves
  - Actual Cost to Date vs. Earned Value
  - Forecast at Completion vs. Budget
  - Invoice Support Data (labor, materials and expenses)

These tools will enable each Lead Engineer to assess his / her team performance and make any necessary corrections on a timely basis.

- Labor Productivity Reports. A tool to measure individual or group performance that will be used by the Subsea Team are labor productivity reports. These will be generated on a weekly basis and will reflect the actual percent completed of a given task compared with the budgeted value of that task. This report will enable each BP Lead Engineer to report on his / her team's productivity on a weekly basis.

- Milestone/Benchmarking. The Subsea Team will use continuous Milestone Charting/Benchmarking to measure its progress toward our established goals. Milestone/Benchmarking will be the tool that provides a current snapshot of project

status compared with the original or other accepted goals. Once the Milestone/Benchmark has been established, Scorecarding will recognize the achievements against quantifiable goals. By using Milestone/Benchmarking to establish current relative status and Scorecarding to evaluate actual progress, the Subsea Team will have another dynamic tool capable of measuring progress.

4.7 Risk Assessment and Management

The Atlantis Subsea Project Team will deliver a safe facility to the Deepwater Development BU through the application of a structured approach to design safety, with the goal of achieving a step change in operational safety through the minimization of risks at the source and the effective management of the hazards that remain.

The Subsea Project Risk Management Plan (BP Document No. 1440-10-PM-PR-0005) outlines the process for identifying, assessing, monitoring and managing uncertainties that may affect Project results. The Subsea Team will manage Project Execution Risks, Major HSE Risks and Project Improvements (opportunities to change design, scope or execution that can increase the value of the Project).

The Subsea Project Team will manage all identified risks and focus effort and resources on the highest priority risks first, i.e. those that have the largest potential impact, are most likely to occur and are most manageable. Mitigation of these risks will be accomplished by activities such as: design reviews (HAZOPs, HAZIDs, Operability reviews), third party certification, factory acceptance testing, systems integration testing, NDT testing and quality plans and will be communicated to the engineers, designers, estimators and others involved in risk analysis to support their judgment in setting ranges on cost and schedule estimates. Other risks that must be addressed and managed by the Subsea Team are environmental, safety, weather and oceanographic risks.

The Predict!Risk Controller [software package] will be used to document and track Project risks, opportunities and recommendations that come out of Formal Safety Assessment activities. The Project Risk Register will be handed over to Operations prior to Project final closeout, at which time the Operations Risk Management Procedure will take effect.

4.7.1 Roles and Responsibilities

The Atlantis Subsea Delivery Team will be expected to identify risks and implement mitigation plans to eliminate the risk, reduce it to an acceptable level or provide a contingency in the budget or schedule. Each risk will have a team member assigned and accountable (the Risk Owner) to act on recommendations suggested by the delivery teams and to develop plans to eliminate or mitigate the risk to the proper level. Tracking risk

actions is the responsibility of each Delivery Team and will be delegated to the Risk Owner to expedite, monitor and report status on actions.

The Risk Owner is also responsible for preparing and monitoring the execution of the mitigation or contingency plan. The Team Risk Champion will coordinate updating the Risk Register and reviewing and reporting risk status for the Delivery Team.

The Subsea Team Risk Champions will be the HSE Coordinators and PS Change Risk Coordinator (reports to the Subsea Delivery Manager and the Project Services Lead). The Subsea Team Risk Champions facilitate risk management activities for the team. This is in addition to the Risk Management activities outlined in the Project Services PEP 1440-10-PM-PR-0007, Rev. A.

The Risk Champions promote the systematic capture of risks as they are identified by the team through the activities noted in Section 4.7 of this document and maintains the Risk Register for the team.

The Risk Champions will ensure that the Risk Management Process will satisfy the requirements of the Hazard Management Strategy, 1400-20-HS-RP-6000, C 072301.

4.7.2 Risk Management Process

The following Risk Management process will be used:

- Uncertainty Identification (HSE Hazards, Project Risks, Opportunities)
- Qualitative and Quantitative Assessment
- Risk Response (Mitigation & Contingency Plans)
- Actions
- Track, Reassess, Report (Continue Improvement)

Uncertainty Identification

The Delivery Team will seek out the experience of the other Deepwater Projects as a starting point for risk identification. Experience has shown that to deliver HSE performance on large, complex offshore projects within project cost and schedule constraints, the application of a robust HSE Hazard Management Strategy is required.

The Atlantis Subsea HSE risks will be identified and managed as described in the GoM Deepwater Development Program Hazard Management Strategy 1400-20-HS-RP-6000. A key part of the strategy is the application of Formal Safety Assessments as described in the Gulf Of Mexico Deepwater Development Program Formal Safety Assessment Guidelines

1400-20-HS-RP-6005. Assessment of the HSE Risks will be done using the criteria for the HSE Risk Assessment found in the Subsea HSE Plan 3478-BHS-RA-0001.

Qualitative and Quantitative Assessment

The Delivery Team will make a qualitative assessment of risks using expert judgment and/or hard data to evaluate the severity of the consequence, probability of occurrence and the degree of manageability. In order to risk rank the hazard scenarios, all Atlantis hazard analysis studies will utilize a Boston Matrix, Table 4.7-1, together with the risk ranking analysis criteria presented in Table 4.7-2 and Table 4.7-3.

Table 4.7-1: RISK ASSESSMENT MATRIX

Hazard Severity Category	FREQUENCY LEVEL (PROBABILITY)				
	A	B	C	D	E
I	1	1	1	2	3
II	1	1	2	3	4
III	1	3	4	4	4
IV	3	4	4	4	4

Risk Ranking Analysis Criteria:

Table 4.7-2: SEVERITY DEFINITIONS

	EXPECTED EVENT CONSEQUENCE
I	Loss of majority of the personnel on board Rapid impairment of TSA/Evacuation Facilities preventing safe, controlled evacuation Long term environmental damage affecting extensive area and prolonged clean-up (>20,000 bbls oil / chemical) Extensive facility damage, loss of asset
II	Single or multiple fatalities or severe injuries to workers in immediate vicinity of event Contained, life threatening health effects Long term environmental damage affecting limited area and prolonged clean-up (>5000 bbls oil / chemical) Major equipment damage, moderate business interruption

III	Single worker with onset of irreversible health effect or permanent disability Less severe injury to multiple workers Moderate environmental impact (>100 bbls oil or >1000 bbls chemical) Moderate equipment damage, minor business interruption
IV	Minor injury or reversible health effects to worker Minor environmental impact (any oil spill or 1 bbl chemical) Minor equipment damage

Table 4.7-3: FREQUENCY DEFINITIONS

Level	Descriptive Word	Definition
A	Frequent	Repeated occurrences could be expected in the life of the facility.
B	Probable	Several occurrences could be expected in the life of the facility.
C	Remote	Single occurrence is not necessarily expected at the facility, but could reasonably be expected at similar facility within the company during the facility lifetime.
D	Improbable	Single occurrence is not expected during the lifetime of company facilities, but could be expected once in the industry during the facility lifetime.
E	Highly Improbable	Scenario is unlikely to occur and is not known to have occurred elsewhere.

A Manageability Matrix will be used to illustrate the relative priority of Subsea Project risks, focus attention on the most important risks and report progress in reducing risk levels. The Matrix is consistent with the GoM DWD Risk Management Plan 1440-10-PM-PR-0005. A quantitative assessment of the execution risks will be conducted to determine needed project schedule and/or budget impacts. The quantitative assessment will justify the risk ranking and help the Team prioritize and plan responses.

Risk Response

The Risk Response is the Plan through which the team decides to adopt management of the identified risk. This plan consists of:

- An elimination plan that removes the risk entirely or
- a mitigation plan that reduces the risk to a manageable level, and
- a contingency plan that manages any residual risk.

Primary responses include avoidance, reduction, transfer, sharing and acceptance with contingency applied.

Actions

The Team will determine and implement actions resulting from the Risk Response. The Risk Champions will expedite and track progress on these actions.

Tracking

The Team Risk Champions will coordinate updating the Risk Register (Predict!Risk Controller) and reporting risk status for the Delivery Team.

Reassessment, Reporting and Continuous Improvement

Reassessment of Project Risks will be conducted by the Team to check progress with the mitigation plans for existing risks, identify new risks, and re-prioritize the list of most important risks. Reporting requirements include a periodic report on Project risks to the Subsea Manager and the Project Engineer. The Risk Management process will be reviewed periodically to ensure that it is working as expected and helping to manage the project.

4.8 Reporting Requirements

Major Contractors will be required to submit Progress Reports on a monthly basis. The general format shall be as follows:

1. Executive Summary
2. Health, Safety, Environmental and Resources
3. Progress Review, including technical issues
4. Manpower and Production Analysis
5. Cost Update Variance Analysis
6. Quality Assurance / Quality Control
7. Schedule Update and Variance Analysis
8. Areas of Concern

4.9 Invoicing

Invoicing will be in compliance with Contract No. BPA-00-01772. Technip will issue a monthly invoice to BP for all engineering and related services performed the previous month. It will include all required supporting documentation, including reference to the appropriate BP SAP PayKey number system.

The details in the Technip invoice will be in accordance with Exhibit "E" of the contract and will supply sufficient backup for audit purposes.

Other contractors to BP or subcontractors to frame agreement members will submit invoices as per the governing BP contract in place with BP Contractor.

5.0 QUALITY AND QUALITY PLAN

5.1 Quality Scope of Work

The Atlantis Project Team is committed to quality. Quality shall rank alongside schedule, cost, health, safety, and environment as primary project objectives. It is the goal of this project that each individual in every job function perform their job in accordance with project requirements and that they be personally committed to the concept of doing their job right, the first time, every time.

The objective policy of the Atlantis project is to have an effective, efficient, and auditable Quality Management System that is planned and developed in conjunction with each Company's (contractor, supplies, vendor and sub-supplier) management systems. Conformance of work to BP business practices, contract and regulatory requirements shall be determined on the basis of objective evidence of compliance with those requirements.

Objectives

The quality objectives of this project are to:

- Minimize quality related defects and rework;
- Document compliance with project requirements;
- Establish and maintain quality systems to ensure that all materials, products, services, and documentation are in conformance with all regulatory requirements, codes, specifications, drawings, etc;
- Eliminate unnecessary surveillance activities and unnecessary documentation;
- Provide a framework for verifying, reviewing, and evaluating the effectiveness of the Quality Management Systems;
- The principle "you get what you inspect, not what you expect" has been adopted for the project;
- Develop a long-term relationship with suppliers to create and establish trust and openness.

5.1.1 Process Improvement and Total Quality Assurance

Throughout the project development, the Subsea Team will employ a number of project-wide activities to ensure continuous progress and quality assurance. Where practical, these activities will be incorporated into the Subsea Schedule and will include:

- Risk Management Planning
- Management of Change (MOC)
- Project HSE Reviews (PHSER)

- Value Improvement Practices (VIPs)
- Cost Risk Evaluation (BRISK) Reviews
- Schedule Risk Evaluation
- Front End Loading (FEL) Assessments
- Internal and External Benchmarking
- Peer Assists and Peer Reviews
- Formal Safety Assessments (HAZID and HAZOP)
- Operability Reviews
- Lessons Learned Reviews

Note that the term "MOC", as used above, refers to management of changes that are deemed critical in the design/execution phases of the project (i.e., changes in field layout, equipment design, schedules, system interfaces, and contracts). It does not refer to the definition of MOC used in the BP Golden Rules of Safety. During all phases of work prior to the Atlantis platform becoming operational, the references in BP Golden Rules of Safety that concern changes in organizations, personnel or procedures are considered not to be applicable.

5.2 Quality Audits

An important element of the Quality Management System for this project involves the PMT assisting in the analysis, development, and implementation of project systems and procedures. This will be accomplished by monitoring and auditing the implementation of project and, where applicable, contractors'/suppliers' quality systems and procedures.

Project Audits will be completed on an as-needed basis. Corrective actions issued as a result of audits will be reviewed and monitored by the Atlantis Project Team. Unscheduled audits may be carried out with less formality, depending on time requirements and the scope of the audit. Primary responsibility for such audits lies with the QA Lead.

5.3 Inspection and Testing

All suppliers and their sub-suppliers are required to have a functional quality management system in place, which is based upon, or in accordance with, a recognized standard such as ISO 9000. Supplier quality requirements are referenced in procedure 1400-20-QA-SP-9001, Project Quality Assurance General Requirement in the procurement package.

The Project QA Lead shall be responsible for the following supplier QA surveillance activities:

- Conducting pre-award assessments

- Conducting quality audits during the execution of the scope of work
- Assessing the level and expertise of inspection personnel to implement surveillance activities
- Monitoring work execution, inspection and testing
- Identification and closeout of corrective action, concerns and issues noted during the execution of the work

The level of Quality Surveillance Inspection during manufacture and/or fabrication of materials and equipment for the project are governed by:

- A criticality rating process which considers:
  - Level of safety, operability, and financial consequences and
  - Probability factors, including design and manufacturing complexity
- Items on the critical path for the project, which, if subject to delays due to rework, could impact sequencing of follow on work
- An inspection philosophy modeled after API 6A, PSL3 quality matrix

The Project QA Lead will coordinate the management of Third Party Surveillance and inspection activities.

5.4 Corrective Action Process

Corrective action processes for major contractors and subcontractors shall be in accordance with Technip Quality Program Plan, 3467-BQA-PA-0001, which discusses Project non-conformance and corrective action, or as separately agreed between the Parties.

5.5 Quality Records

Retention of Quality Records is addressed in each work package release and in industry standards, such as API, and is deliverable as listed in the Master Document List included with each supplier's contract.

5.6 Reporting

Critical Process Review

The responsible BP Lead Engineer and BP QA/QC Lead Engineer will review and approve Contractor procedures for its QA/QC plan and all critical processes used during the equipment fabrication process. Such process would include forging/casting of raw materials, welding and coating procedures, repair procedures and all NDE operations.

Non-Conformance Review

The responsible BP Lead Engineer and BP QA/QC Lead Engineer will review all Non-Conformance Reports regarding his/her equipment area generated by the Contractor, QA/QC, or any other surveillance personnel and approve any dispensation of the non-conforming item. In the interest of efficiency, BP QA Lead may elect to identify and review only types of NCRs deemed "critical" to the design or fabrication process, if agreed with supplier and BP Lead Engineer prior to the start of equipment fabrication.

Suppliers are required to submit, for review and approval by the designated Atlantis Project Team members and the project QA Lead, the following documentation:

- Quality Plans and a listing of associated Quality Assurance and Control procedures to ensure that product is produced, inspected, and installed in accordance with applicable contract requirements, specifications and standards.
- Inspection and Test plans (ITP) are required to be submitted by suppliers providing critical components and contractors involved in field or shop fabrication of the work.
- The aforementioned Quality and Inspection and Test plans shall be submitted to Company for approval, and where designated, review meetings shall be scheduled with Company, Atlantis project QA, contractors, suppliers, Third Party and Classification Society Personnel to identify surveillance interfaces and to expedite the document review and approval process.

5.7 Quality Assurance Plan

The Project Quality Plan (PQP), Document No. 3467-BQA-PA-0001 (BP Document No. 1400-30-QA-PR-0002) defines the quality requirements for the Atlantis project, and provides all project team members with documented information on the Quality Management System applicable to this project. Project personnel, through adherence to the PQP, Company requirements, project procedures, and the supporting Work Methods and Work Instructions, shall adhere to the policies, philosophies, and business practices described in the Project Quality Plan. The Project Quality Plan addresses the following areas:

- Project Quality Objectives
- Project and Quality Organization and Responsibilities
- Project Quality System Documentation
- Quality Assurance of Project Work Scope Activities
- Personnel Training and Awareness
- Project Quality Management System Audits and Corrective action Process
- Supplier Quality Surveillance and Inspection
- Supplier Noncompliance and Corrective action process

- Project Quality Status and Reporting

BP ATLANTIS
CONFIDENTIAL WORK PRODUCT

6.0 TECHNICAL MANAGEMENT PLAN - ENGINEERING CONTROL

Technical Management of the Subsea System equipment workscope is the joint responsibility of BP and its associated Prime Contractors. In the case of the Subsea Systems, the Prime Contractors are Technip, FMC, NEXANS and the flowline/riser fabrication and installation contractor(s). These groups support the BP Subsea Delivery Manager in each of the major equipment and services areas identified in Section 1.2.

The BP Subsea System Delivery Manager is supported directly by individual BP Lead Engineers who in turn are supported by a designated engineering team provided by Technip (see Attachment 1).

6.1 Engineering Scope of Work

The Engineering Scope of Work has been captured in Section 1.2 of this document. The management of this scope of work will be as described below.

The Subsea System BP technical management effort is guided on a day-to-day basis by the BP Project Engineer who reports directly to the BP Subsea Delivery Manager. The BP Project Engineer has the following roles and responsibilities:

- Responsible for coordination of project controls including schedule
- Coordinate the activities of the Discipline Lead Engineers.
- Recommend and help discipline leads to obtain technical resources to support the technical development of the project.
- Establish work priorities between the discipline areas, in conjunction with the BP Subsea Delivery Manager.
- Facilitate appropriate meetings within the Subsea Team disciplines and between other Atlantis technical groups.
- Report technical progress and/or concerns to the BP Subsea Delivery Manager.
- Assist in resolving technical issues that arise during the course of the project, including interface issues between disciplines.
- Ensure that technical decisions are properly planned, supported, documented and acted on in a technically responsible and timely manner.
- Providing Project ServicesTeam with timely inputs as required on a monthly basis.

<u>BP Lead Engineers</u>

Table 6.1-1 below shows each Discipline Lead position and assigned individual and the Subsea system workscope which fall under each lead's responsibility:

Table 6.1 – 1: DISCIPLINE LEAD POSITION AND RESPONSIBLE INDIVIDUAL

Discipline Lead Position	Responsible Individual
Well Systems Project Engineer	Ryan Malone / Charlos Ward
Well Systems Installation Manager	John Hughes
Subsea Tree Lead	Rick Weber
Umbilical Lead	Benny Kirkham
QA/QC Lead	George Huntoon
Controls/IWOCS Lead	Doyle Hickok / David Whitehead
Well Systems/ROV Support Lead	John Hughes
Special Projects	Bob Herrmann
Project Services Administrator	Stephen Brady
Flowline/Riser Lead	Otto Granhaug
MANTIS Lead (manifolds, jumpers, PLETS)	Larry Douglas
Installation Consultant	David Sorrel
Interface Coordinator	Chuck Horn
HSE Coordinator	Rick Sloan/Jim Kruger
Subsea Team Risk Champions	Rick Sloan/Jim Kruger

Each Lead Engineer will be responsible for providing guidance to his/her discipline engineering team through all stages of engineering design. The intent is to effectively communicate BP's technical requirements for the engineering design work on an ongoing basis, utilizing a team approach. This method should prove more effective than the traditional approach where the contractor does its work in isolation until a major milestone is reached, then hands it over to the Company for review. The above Discipline Leads have the following roles and responsibilities:

- Responsible for controlling budgets and schedules as approved by the BP Delivery Manager (and reporting any changes to the Project Services Team.)
- Review Contractor's work to ensure that the equipment designs and developments meet project requirements as defined by regulatory agencies, Certification Authorities, project specifications, industry standards and recommended practices, and BP's general company standards.
- Provide technical expertise (in a proactive manner) to other Atlantis groups responsible for the prime contract deliverables and services. Such expertise shall include the resolution of technical issues and the development of detailed interfaces.

- Provide technical assistance to the Contractor's engineering teams as appropriate. Work directly with other area technical groups (Hull, Topsides, etc.) to resolve technical issues and develop technical interface solutions in a proactive manner.
- Provide system level engineering, technical assistance and operational input to the Contractor's engineering teams as appropriate.
- Assist other project teams to develop solutions to issues involving tradeoffs between technical and commercial issues.
- Report Contractor's technical progress to Subsea Systems Delivery Manager on a weekly basis and to Atlantis Leadership Team as directed.
- Ensure utilization and transfer of existing BP technology to Atlantis equipment as appropriate.
- Review, comment and approve all project deliverables produced by Contractors.
- Ensure delivered documents bear a BP document number in the required format and that the appropriate equipment item tag numbers are assigned.
- Prepare, with the assistance of Technip and FMC, the Installation, Maintenance and Operating Manuals containing detailed information and procedures for offshore operations.
- Facilitate technical buy-in of other project teams as needed to effectively communicate key design decisions, including the organizing and conducting of discipline Peer Reviews.

Limits of Authority

The Subsea Systems Team is a dedicated resource group set up primarily to execute the design, fabrication, testing and installation of all Subsea equipment identified in Section 1.2. Each BP Lead Engineer shall be supported by the technical staff provided by Technip, supplemented when necessary by other Contractor engineering staff.

The Subsea Systems Team has no authority to issue instructions to other Atlantis teams (e.g., Hull, Topsides, etc.) or outside Contractors not associated with the provision of Subsea equipment. All matters concerning contractual items should be brought to the attention of BP's Project Commercial Manager or Procurement group by the BP Project Engineer, Subsea Delivery Manager or Subsea Project Services Lead.

Additional Resources

Each BP Lead Engineer has the responsibility to perform his/her duties as outlined above and shall have the necessary Technip technical resources to accomplish these tasks. In the event additional resources are necessary, the Lead Engineer shall request these resources as required.

The Lead Engineer may also request additional technical resources required to evaluate specific technical areas in which he/her may not be fully qualified to perform. In particular, specialists from BP's Exploration and Production Technology Group (EPTG) may be called in when necessary.

6.2 Design Criteria Document

Conceptual Design (Define Phase)

Each BP Lead Engineer will review the concept design layouts as they are produced by Technip to ensure that the conceptual designs conform to BP requirements as stipulated in the Statement of Requirements (SoR) and other BP requirements for deepwater offshore operation. The BP Lead Engineer will participate in the formal design review of the conceptual engineering layouts.

The BP Lead Engineer will consult with all other appropriate Atlantis teams (Hull, Topsides, Drilling, Completions, etc.) to keep them fully informed concerning the relevant design and interface issues. It is important to have all teams buy-in to the designs at the conceptual stage to reduce the probability of major design revisions during later phases of the project.

Detailed Design (Execute Phase)[†]

The BP Lead Engineer will work with their respective discipline engineering groups in the development and review of detailed designs. All detailed designs will be performed by the designated prime contractor personnel. For example, all Subsea tree, manifold, and controls detailed designs will be performed by FMC, while jumpers and PLETs will be fabricated by Porter Services. Similarly, other subsea-related equipment such as umbilicals and ROV tooling will be detail designed by the respective prime contractors after they have been selected. Riser and Flowline detailed design will be done by Technip.

The BP Lead Engineers will participate in all formal design reviews and ensure that the equipment designs fully meet BP's requirements and specifications. The Lead Engineer will review, comment on, and approve all project deliverable technical documents produced during the detail design stage as applicable to his/her area of responsibility. The required documents (CDRL) will be listed in the equipment functional design specification (FDS).

Design Data Book

[†] See attachment 13 for ADC specific requirements

The Contractor's Design Data Book will include a Design Summary Document defining the design basis for the equipment and all supporting engineering design documentation required to demonstrate that the design conforms to the agreed Functional Design Specifications (FDS), SoR and Design Basis Document (DBD).

Each BP Lead Engineer will review and approve his/her section of the Design Data Book prior to submittal of the document to other Atlantis project groups or the Certification Authority.

As-Built Documentation

The Lead Engineer for each discipline area will ensure that all technical documentation is updated to reflect the as-built condition of the equipment prior to deployment to the field.

6.3 Engineering Deliverables Numbering System

All engineering documents are to be identified by a unique document number and a revision level. This shall include reports, studies, list, bills of materials (BOMs), data sheets, criteria, specifications, evaluations, etc. The numbering system including revision levels shall be in accordance with the Project Document Numbering Guideline (1400-10-AD-PR-0212) and the Technip Project Engineering/Technical Document Numbering System (3467-ST-PM-0001).

6.4 Engineering Deliverables Preparation

The deliverables that are specified on each CTR will be the basis for developing the deliverables list that will be used for calculating progress (see Section 3.11). The deliverables will be weighted by the discipline Lead Engineer based on manhours and specific "milestone chains" will be prepared for each deliverable.

6.5 Mechanical Equipment Numbering

The field architecture numbering system is as shown on drawing Field Architecture with Equipment Designations (Technip doc. No. 2478-BSB-DC-0227, BP Doc. No. 1440-30-SB-DG-0051-001). The number system is based on using the manifolds as the central geometric starting point and the labeling system shall by its designation describe the location of the component is a logical fashion. By understanding the labeling system, an ROV operator should be able to find the ROVs location by referencing a component label at DC1. The first manifold "1" is north of the center and subsequent manifolds north of "1" are odd numbers. Manifolds south of "1" are even numbers beginning with "2". Trees are labeled with letters A through D clockwise as shown. Each tree is labeled based on the manifold it is attached to and the letter position relative to the manifold. Each tree jumper is

then labeled as to whether it is a test jumper or production jumper "T" and "P" respectively. As shown, "3AP" is a production jumper between manifold "3" and tree "3A". Since the manifold number is "3", intuitively it is the second manifold north of the center.

Flowlines are labeled P1, P2, P3, P, T and W2. P1, P2 and P3 are east of the manifold centerline. P, T and W2 are west of the manifold centerline. P flowlines are production, T is a test flowline and W flowlines are water injection. Flowline PLETs are labeled the same as the flowline. Hydraulic and electric umbilicals are labeled H and E respectively with a number designation. Even numbers are east of the manifolds centerline and odd numbers are west of the manifold centerline. Umbilical Terminations are labeled the same as the umbilicals.

PLET Jumpers are labeled by combining the two components connected. "2-P2" is the PLET jumper from manifold 2 to PLET P2. Flying leads are labeled in a similar way. Hydraulic flying leads are labeled beginning with the hydraulic termination unit first and the component to be connected second. For example, "H2-4B" is a hydraulic flying lead from umbilical termination unit H2 to tree B on manifold 4. Electrical flying leads are the same, with an addition of "EC1 or EC2" referencing the specific tree connector since each tree has two electric flying leads.

6.6 Engineering Design Symbols

All Technip Design/Drafting work complies with company standards AEI-WW-DD-0001, 0004, 0005, 0006, 0007, 0008, 0009, 0010, 0012, 0013 and 0014.

Other governing Engineering documents complied with are API-6A, API-17D, API-17A and ANSI Y14.5 which dictates specific dimensioning and tolerancing of critically detailed parts.

Engineering Design Symbols are in accordance with Internal Standard Association (ISA).

6.7 Design Reviews[†]

Informal technical review meetings will be held within each discipline Subsea Systems group on an as-needed basis, depending upon the level of work completed. More formal design reviews will be held at intervals defined in the Subsea Systems Project Schedule and Quality Plan. In general, these meetings will be held at the completion of the conceptual design (Select Phase), at the completion of the FEED (Define Phase), and mid-way and at the end of the detail design (Execute Engineering Phase). Reviews will also be conducted to ensure the design will address the issues of the Hazard Identification (HAZID) study, Hazard and Operability (HAZOP) review and standards and regulations of the cognizant

[†] See attachment 13 for ADC specific requirements

federal authorities such as MMS and ABS. Additionally, individual discipline Peer Reviews will be held as established by the BP Lead Engineers.

Design Revisions

Each BP Lead Engineer will review his/her respective discipline equipment design revisions to ensure that all revisions are incorporated as agreed by BP, and meet BP's requirements and the requirements stipulated in the Subsea Systems SoR and DBD. The Leads should also ensure that the Contractor's internal procedures for design revision are being followed.

The Lead Engineer will also review all design revisions for possible impact on interfacing equipment and ensure that revised design documents are distributed to all affected project teams with the assistance of the Document Controller.

Design Decision Log

Each BP Lead Engineer will ensure that his/her input to the Subsea Systems Design Decision Log is consistent and accurate. All significant technical or design decisions that are made and agreed upon during the design stages of the project shall be included in the Design Decision Log. The Decision Log is kept and maintained by the Technip Project Manager.

The integrated Design Decision Log should be distributed for review and information to the full Subsea Systems Team on a regular monthly basis.

6.8 Best Practices

The BP Lead Engineers shall work closely with each Contractor engineering team to implement Best Practices activities into the project. These activities will include but not be limited to:

- Capital Value Process (CVP)
- Major Project Common Process (MPCP)
- Management of Change (MOC) Process
- Value Improvement Practices (VIP)
- Benchmarking with other deepwater projects
- Periodic HAZID / HAZOP Assessments
- Peer Reviews
- Operability Reviews
- Assurance Reviews
- Project HSE Reviews (PHSER)

- Lessons Learned from other deepwater projects

6.9 Value Engineering Plan

The Atlantis Subsea team's plan for Value Engineering is simple and straightforward:

1. Capture Value Engineering activities conducted. Demonstration of these activities is required as described in the Capital Value Process (CVP). It is necessary to demonstrate such activities to pass through various project gates.
2. Continuously challenge all aspects of the Project through the design, manufacturing and other phases, looking for opportunities to remove unnecessary components or to reduce costs etc.
3. Value Engineering Results shall be captured in the Value Engineering Log. It is the responsibility of discipline leads and other team members to provide examples of these activities to the Project Secretary who will keep the file up-to-date.

6.9.1 Purpose

The main purpose of Value Engineering for the Atlantis Subsea Systems Team is to minimize life cycle costs and eliminate unnecessary or redundant systems/components. Specifically, identifiable up front capital costs should be weighed against less defined operating and maintenance costs. In addition, Value Engineering and the effect of the chosen option on the Quality Plan should be considered along with the potential effect on various internal and external interfaces.

Throughout the design phase, each system and component should be scrutinized with questions such as:

- Is this component required?
- Why is it required or not required?
- What are the risks if we eliminate this component?
- Is there a simpler, less expensive alternate to replace this component?
- What is the Life Cycle cost of this system and its alternates?
- What is the effect of changing this component on other systems?
- What is the net effect of this change on overall project economics?

6.9.2 Identification Of Issues

For the purposes of Subsea Systems Value Engineering, the identification of issues could include engineered components or the value of up front engineering versus savings at a later date.

A good process to initiate Value Engineering would include:

- Define the scope of the component or system to be analyzed.
- Identify the desired outcome upon completion of the effort.
- Identify any information required for the analysis.
- Identify limits to help maintain the focus of the analysis.
- Perform cross-discipline reviews as required.

6.9.3 Roles and Responsibilities*

The BP Project Engineer, with assistance from the Lead Engineers and equipment Contractors, will identify and initiate issues that may benefit from Value Engineering. All technical evaluations should include reviews by the Lead Engineers, Technip engineers, Contractor staff and Third Party specialists or Consultants when appropriate.

Often there are cost implications associated with Value Engineering. To assist this effort, the specific equipment Contractor shall gather all associated design, fabrication and testing costs to establish a cost baseline for Value Engineering analysis. The BP Project Engineer should direct this effort as it pertains to their equipment.

6.9.4 Methodology

The following methodology is a suggested approach. Each Subsea Systems Lead Engineer may modify this method to suit individual cases

For all changes or additions, challenge the need and identify options. If design or procurement is being initiated on an item or system that was not detailed earlier, identify, evaluate and consider all options.

In general, ask the questions listed in Section 6.9.1. Interface meetings should be arranged with the appropriate groups to evaluate the proposed changes or additions and the philosophy behind the proposed change.

<u>For Life Cycle costs:</u>

- Determine the capital costs and years of expenditure.
- Determine the periodic operating costs and years of expenditure.
- Determine the risk associated with each cost.
- Perform economic model analyses.
- Make a decision if the base design or an alternative case is the best solution.

* See Attachment 9 for ANF/DC3 specific requirements

6.9.5 Implementation

After a Value Engineering analysis has been performed and documented, further actions may be taken as appropriate to implement any required changes. If the magnitude of the proposed change warrants, a Management of Change (MOC) process should be initiated (reference MOC Procedure 1440-10-PM-PR-0255, Rev 2).

Example:

During the preliminary engineering phase of Atlantis, the Subsea Systems Team carefully considered the preferred configuration of the Subsea production and water injection trees. During this Value Engineering process, the team evaluated a large number of technical, operational and cost issues related to the tree configuration. As a result, the horizontal tree configuration was selected as the most economical and technically preferred for Atlantis.

In the Value Engineering analysis, an economic evaluation was performed to determine the preferred configuration based on inputs from considering several drilling, completion and workover scenarios.

In refining the basic tree configuration, a dual hub tree configuration was selected. Dual hubs enabled all electro-hydraulically actuated valves to be moved from the Subsea manifolds to the tree. This decision significantly reduced costs by eliminating any control requirements for the manifold, increased reliability by moving potential failure points from the manifold to the more easily retrieved tree, and simply reducing the number of relatively costly actuated valves.

Additionally, the dual hub configuration improves flow assurance by providing a circulation path to permit dead oil displacement of the well jumpers and a circulation path for hot oil warm-up prior to well startup.

All of these options were carefully considered during a focused Value Engineering effort by the Subsea Systems Team.

6.10 Design Freeze Log

A Design Freeze Log is maintained by the project. When items reach design completion, these items are considered frozen and as such, these items will then be considered to be controlled by the MOC process.

In some cases, rolling or stepwise design freezes will be considered while approaching total project design freeze. Design freeze milestones will be introduced to the project schedule when design freeze dates are agreed.

The project will maintain an Atlantis Design Freeze Register and issue Design Freeze posters from time to time.

6.11 Areas of Concern - Critical Issues

Areas of Concern are captured in monthly reports produced by the vendors and Technip. The red, yellow and green color-coding system is used to flag issues by criticality. The top three areas of concern for the Subsea Team are tabulated in the Subsea Section of the highest level Atlantis Monthly Report that is produced by the Atlantis Project Services Group.

7.0 INTERFACE MANAGEMENT

7.1 Interface Management Overview

An Interface Management System will be used by the Subsea Systems Team and all prime contractors to record, track and report the status of any interfaces that are identified between their equipment area and any other Atlantis Project Team or contractor's team. Each prime contractor will use a similar system to track their internal interfaces, especially with their subcontractors and major suppliers.

The Interface Management System provides the mechanism for the orderly transfer of information between the contractors and other groups associated with the project. Used properly, the interface system will not create a bottleneck in the flow of information but will prevent costly omissions and oversights. Given the large number and complexity of the Atlantis Project equipment systems, the Interface Management system is essential for tracking the various interfaces and providing a proactive approach to solving the problems.

The Atlantis Subsea Team Interface Coordinator will be responsible for managing all interfaces relating to the Subsea Systems scope of work. The Atlantis Interface Management Plan (1440-10-AD-MA-001, Rev B) describes the interface process in detail. The Plan includes the following interfaces:

- Interproject Interfaces
- Intraproject Interfaces
- External Interfaces (e.g. with subcontractors)

7.2 Interface Management Scope and Objectives

The Interface Management Plan consists of 3 major parts:

A. Interface Responsibility Matrix
B. Interface Query
C. Interface Log

The Interface Responsibility Matrix identifies the various owners of information throughout the project life.

The Interface Query identifies requested information, actions to produce information, documents required to define information, criticality, requestor, respondent, date needed, cost and schedule impact.

The Interface Log records and tracks queries and results. The Interface Log is used to prepare the Interface Report section within the monthly Subsea Project Status Report.

7.3 Basic Tenets of the Interface Management System

The individual BP Lead Engineers and Technip engineers should provide the individual interface item inputs into the system. An interface query will be recorded whenever design data or information must be requested from another contractor or subcontractor. In addition, interface queries will be used to bring operational or schedule related issues to the attention of BP whenever appropriate.

The Interface Query process is described as follows:

- Interface initiator completes Interface Query form
- Interface Query form submitted to Interface Coordinator to be logged in Interface Log
- Interface Coordinator forwards Interface Query to actionable respondent as determined by the Interface Coordinator
- Actionable respondent completes query form and returns to Interface Coordinator
- Interface Coordinator closes query upon satisfactory response and updates Interface Log
- Interface Coordinator issues monthly Interface Log status document through Document Control to appropriate Lead Engineers and contractors

Once parties agree that an interface issue may be closed and closing signatures are appended to the detailed query form, a formal Query package shall be released through Document Control.

8.0 PROCUREMENT AND PROCUREMENT PLAN*

8.1 Procurement Scope of Work

BP Supplier Contract Management (SCM) personnel, supported by assigned Technip staff, shall be responsible for executing the procurement procedures in accordance with BP GoM Deepwater Project Execution Plan (1440-30-PU-MA-0031). This procurement and materials plan provides guidance for the processes, functions, management and system for procurement activities.

The responsible BP Lead Engineer for the individual equipment areas will review, comment and approve all assembly level Bills of Materials, Procurement Specifications, Component Data Sheets and Work Package Releases prior to the release of these documents for procurement actions.

The Atlantis SCM team will meet the procurement goals and objectives by focusing its efforts in the following major areas:

- Ensure that all equipment, materials and services are purchased at the lowest acceptable cost from approved worldwide suppliers who have demonstrated commercial and technical capabilities with consistently timely deliveries.
- Take overall responsibility for cost, quality and delivery of purchased equipment, materials and services.
- Where possible, make use of global sourcing networks and frame agreements.
- Ensure that key project procurement staff is recruited from the most experienced technical and commercial personnel available.
- Manage the projects to comply with all BP GoM Deepwater Development requirements.
- Work closely with the BP Discipline Lead Engineers to ensure the best technical information is being used during procurement activities.

8.2 Procurement Document and Material Control

The Atlantis Project Wells Systems / Subsea Procurement Execution Plan (1440-30-PU-MA-0031, 3478-BRO-PA-001, Rev. 2) contains full information and the tools for conducting all activities associated with procurement. (This Procurement Execution Plan is sometimes referred to as the Procurement Tool Kit.)

The BP Lead Engineers shall be responsible for identifying all key equipment, materials and services to be purchased for the project. Additional services may be required of the BP

* See Attachment 9 for ANF/DC3 specific requirements

Lead Engineer such as providing a scope of work and supply for specific equipment or services, providing suggested bidders or suppliers, and providing proposed logistics for identified items.

8.3 Request for Quotations, Work Package Release and Requisitions

The responsible BP Lead or Project Engineer initiates / completes the appropriate documentation as per the examples contained in the Procurement Execution Plan:

A. Frame Agreement Project Release Procurement
   - A-1. Frame Agreement Instructions
   - A-2. Change Orders for Frame Agreement

B. Purchase Orders
   - B-1. Purchase Order Instructions
   - B-2. Change Orders for Purchase Orders

C. Requisitions
D. Provisional Acceptance Notices (PAN)
E. Request for Quotations
F. Contracts
G. Appendix
   - G-1. Supplier Management System / Document Management – Adding / Modifying a Contract (New SMS)
   - G-2. Standard Safety Questionnaire (SSQ)

8.4 Bid Receipt and Evaluation

Purchasing will monitor bidders for timely submittal of bid responses. Following receipt, technical and commercial reviews will be made of the bids. Discussions will be held with vendors, as necessary. Attention will be paid to the conformance with technical specifications, project schedules and assurance of cost in accordance with established agreements.

A complete and consolidated recommendation will be prepared and presented for BP review.

8.5 Purchase Order Award

Final review meetings will be held with purchasing, engineering and vendors, to validate all aspects of the approved commitment. Purchase Orders will be written to record the terms of the Agreement.

8.6 Post Award Administration

To ensure proper implementation of awarded orders, the Purchasing group will administer Purchase Orders and associated activities after award.

8.7 Procurement Close Out Requirements

Purchasing will ensure that a procedure is in place, at contractor or vendor location, to ensure proper close out of project purchase orders.

9.0 CONSTRUCTION PLAN*

The Construction Plan is comprised of the following.

Subsea equipment manufactured by the selected vendors will be inspected and tested prior to being made ready for factory acceptance testing (FAT). Written plans will be produced to cover these and other associated activities, and shall be formatted in a manner to capture test results and other information.

Factory Acceptance Testing and Extended Factory Acceptance Testing Plan

The individual Subsea equipment Contractors shall prepare timely FAT and EFAT test procedures that test all critical functions of their equipment to ensure the equipment meets all relevant BP requirements, industry specifications, functional design specifications, detail design specifications and is fit for purpose in all respects. The responsible BP Lead Engineer will review and approve all Contractor test procedures to verify the equipment's acceptability. He/she will ensure that all test procedures (FAT, EFAT) are suitable for verifying the completeness of the work and that procedures include acceptance criteria consistent with the equipment specifications. These procedures will also be reviewed by the BP QA/QC Lead Engineer.

Systems Integration Test (SIT) Plan

The Subsea Systems' SIT will be jointly planned by the BP Lead Engineers, Technip Leads and the Contractor team. The detailed SIT plan and procedures will be prepared by the specific equipment Contractor with technical input from BP and Technip and approved by BP Leads as appropriate.

The SIT shall serve as verification of component compatibility and fit-up and confirm proper operation of the combined deepwater equipment. In addition, ROV interfacing shall be simulated to verify accessibility and workability. Results of the SIT will determine if any equipment modifications are necessary prior to final assembly in the field.

The SIT will provide an opportunity for review and evaluation of operating procedures, maintenance and inspection procedures, installation procedures and emergency / contingency procedures. The SIT shall also provide the opportunity for training operating personnel and offshore installation personnel.

Equipment and Other Data

* See Attachment 9 for ANF/DC3 and attachment 13 for ADC specific requirements

During project engineering, equipment fabrication and testing, many documents are produced which include the following:

Job Data Books

The requirements for the Contractors to provide Job Data Books are specified in the Atlantis Quality Plan (3478-BQA-PA-0001) and the individual equipment Functional Design Specifications (FDS). Such documents will be delivered as specifically defined in the Contractor Data Requirements document (1440-10-1M-PR-0231). Basically, the Subsea Systems Job Data Books include the following major documents:

- Design Data Books
- Manufacturing Data Books
- Installation & Operation Manuals
- Maintenance & Repair Manuals

Design Data Books

The requirements for the equipment Design Data Books are outlined in Section 6.2. These Contractor-prepared documents include a design summary, design details, technical criteria and all supporting engineering design documentation required to demonstrate that the design conforms to the FDS, SoR and DBD. These Design Data Books will be reviewed and approved by the BP Discipline Lead.

Manufacturing Data Books

The Manufacturing Data Books (MDB) will be assembled by the equipment builder and used to maintain a record of procurement, manufacturing, inspection and testing associated with the equipment being delivered. The MDBs will primarily be a Quality Assurance responsibility. The responsible BP Lead Engineer will provide assistance where required in the development of the format for the MDBs, and will review specific technical material in the MDB as requested. The MDB shall normally contain the following information as applicable and as a minimum:

- Bill of Material
- Material Test Reports (including chemistry and mechanicals)
- Heat treating records
- Certificate of Conformance (COC)
- Weld maps
- Post-weld heat treat records

- Non-conformance reports
- NDE reports
- Critical dimensions inspection
- Hydrostatic test charts (assembly only)
- FAT signoff sheets (assembly only)
- Serialization of components report (assembly only)
- Coating documentation and test reports
- Electrical continuity test reports
- Pipe bending reports
- Weight certificates
- Lifting sling certificates (if applicable)
- Drift reports
- Valve / other component test reports
- Padeye load test reports

It will be the responsibility of the BP QA/QC group to review and accept the manufacturing data books.

Installation and Operational Manuals

Installation and Equipment Operation manuals will be developed by the appropriate equipment supplier. The manuals will be reviewed and approved by the BP Discipline Leads and by a representative from the Operations group.

Add equipment tagging information and dealing with electronic books with book marks shall be in accordance with BP Document 1440-30-GE-RP-0145 (Technip Document no. 3478-BSB-PA-0032) and instructions per BP Supply Chain Management-Deep Water, Deep Gas Business Unit. See email in Attachment 10 by Rochelle Savel.

Maintenance and Repair Manuals

Maintenance and Repair Manuals will be developed by equipment manufacturers with associated guidance from the Subsea Systems Team under the leadership of the respective equipment BP Lead Engineer. Manuals will be prepared using the following guidelines:

- Manuals to include integrated system level procedures with sufficient detail to support the planned offshore operations.
- Include possible contingency operations associated with normal operations.
- Ensure the procedures include input from the Operations, Drilling, Installation and Commissioning Teams, and other Subsea System Contractors.

- Ensure that Planned Maintenance (PM) schedules are consistent and format with the overall Project Schedule.
- Ensure that Troubleshooting Charts are prepared in detail, taking all possible failure modes into account.
- Ensure that the Safety Precautions are highlighted and clearly defined for each procedure.
- Ensure that the offshore operations staff is informed of equipment and tooling required to perform offshore maintenance.
- Clearly identify what maintenance or refurbishment operations should, or should not, be performed offshore.
- Electronic data and file size for the Atlantis project shall conform to requirements as stated in BP Document 1440-30-GE-RP-0145 (Technip Document no. 3478-BSB-PA-0032) and per BP Supply Chain Management-Deep Water, Deep Gas Business Unit. See email in Attachment 10 by Rochelle Savel.

Maintenance and Repair manuals will be developed by the appropriate equipment supplier.

9.1 Construction Scope of Work

The final design and construction activities of the Atlantis Project are divided into the PQ Hull, Mooring, Topside Modules, Subsea Systems (and related equipment). A Subsea Installation Team and a Commissioning & Start-up Team will be formed to work with the installation contractor(s) and to manage the offshore work during the later stages of the project.

The organization chart for the Subsea Team is included in Attachment 1. Detailed Installation Commissioning Procedures will be developed to cover these activities.

9.2 Constructability Plan

The Construction Industry Institute (CII) defines constructability as the optimum use of construction knowledge and experience in planning, design, procurement, and field operations to achieve the overall project deliverables. Constructability differs from Value Engineering (Section 6.9) in scope and manner of analysis. Value Engineering focuses on functional analysis and project life cycle costs, while Constructability is achieved by utilizing construction experience in a well-structured and appropriately timed manner. This philosophy will be maintained throughout the final design, fabrication, testing and installation phases. The full benefits of constructability require a proactive approach that must be driven by the individual BP Lead Engineers in their respective equipment areas. A Subsea Systems Constructability Plan will be executed by applying the construction knowledge and

expertise of the entire Subsea Systems Team: BP Leads, Technip engineers, Contractors and subcontractors at an early stage to the component and system designs of the project.

During the design phase of the project, future manufacturing costs can be attained by designing with the manufacturer's capabilities in mind. This approach applies throughout the entire design process, not only in the selection of forms, fittings and construction of parts, but also in material selection with respect to machinability, weldability and required heat treatment.

It is also important to carefully review the functional design and detail design requirements prior to fabrication to ensure that individual components both meet the necessary specifications but do not grossly exceed these specifications, thereby adding additional cost. Each component, subsystem and system of the project must meet the requisite specifications and be fit for purpose.

It is the intention of the Atlantis Subsea Systems Team to apply these principles and satisfy these requirements by continuous survey and analysis of the ongoing design, planning and manufacturing activities. Each BP Lead Engineer will be familiar with the Constructability Plan and its underlying philosophy, and ensure these principles are constantly being applied to the project.

9.2.1 Roles and Responsibilities

The Constructability Plan addresses the Subsea Systems project management strategy to ensure that the equipment will meet constructability through all phases of the project including:

1. In-plant fabrication
2. FAT and EFAT testing
3. System Integration testing
4. Offshore installation
5. Maintenance operations
6. Retrieval and replacement if necessary

This Constructability Plan will assist the Contractors in completing their work scopes by promoting efficient constructability analysis methods complementary with existing industry practices. This activity should neither impede the progress of the project or its sub-projects but should improve both the scheduled progress and overall cost-effectiveness of the project.

The Subsea Systems Team will take the following actions in implementing the Constructability Plan:

- Ensure all Subsea components, sub-systems and systems equipment meet the operational needs of the Atlantis Field requirements.
- Ensure that all Subsea Systems equipment meets the required FDS and detail design requirements.
- Ensure that all Subsea Systems equipment meets the safety and technical requirements of BP, BHP Billiton, industry and the obligatory federal and state regulatory requirements.
- Provide equipment that can be installed from the DD II or PQ as indicated in the respective Installation Procedures.
- Ensure that all ROV intervention activities can be accomplished.
- Serve as a source of information for other delivery teams (Hull, Topsides, etc.) interfacing with the Subsea Systems equipment.

In general, the Contractors are responsible for preparing their own Constructability Plans to support the overall plan and to perform their contractual duties within that plan. The Subsea Systems Team, through its individual BP Lead Engineers, will provide the technical leadership and experience to direct the Contractors and their sub-contractors as required, to complete their work in conformance with the specifications. The Subsea Systems Team will also provide the necessary link for all critical items and will serve as the information interface with the Installation Contractor.

9.2.2 Constructability Means And Methods

The following means and methods will be applied to accomplish the above

Responsibilities. A designated Subsea Systems Team representative, normally the BP Lead Engineer, or his/her authorized representative, will be available at each Contractor's facility to:

1. Monitor and report material and technical progress of the Contractor and its sub-contractors.
2. Monitor and report all QA/QC requirements in accordance with the Atlantis Quality Plan (Technip Document No. 3478-BQA-PA-0001, BP Document No. 1400-30-QA-PR-0002).
3. Provide technical leadership and experience as needed to the Contractor.
4. Include representative(s) from Contractor into Atlantis Subsea Systems Team.
5. Review engineering work to ensure that equipment designs, technical specifications, procedures and other engineering work meet the contractual requirements.

6. Work with the Contractor(s) engineering teams to develop technical interface solutions and resolve technical issues.
7. Provide prompt responses to all technical queries, interface queries and clarification requests received from Contractor(s).
8. Review test procedures, operating manuals and maintenance/repair manuals for technical quality and content.
9. Disseminate appropriate Company technology and engineering information to Contractor(s) staff.
10. Assist in the following activities without appreciably delaying progress:
    - Conduct QA/QC and material reviews.
    - Analyze system and component interfaces, including running tools, connectors, valves, ROV interfaces, stackups, jumper installation tolerances, etc.
    - Monitor manufacturer's qualification programs with respect to design reviews, prototype assembly and testing. Witness appropriate tests.
    - Closely monitor the manufacturer's construction quality and review all non-conformance reports. Ensure that equipment is "fit for purpose" and meets all relevant project specifications.
    - Review manufacturer's FAT, EFAT and SIT procedures.
    - Subject finished products to a Final Factory Inspection and approve release for shipment.

Constructability Plan results are captured in Design Review, Hardware Quality Plan, Manufacturing Process Plan and other related documents.

9.3 Contracting Plan

Foundation for the Contracting Plan can be found within the Frame Agreements that have been put into place with the BP selected vendors.

Subsea Systems Team

Frame Agreement contractors have been selected to provide the necessary engineering, fabrication, testing, and installation experience to the Atlantis Project, using the "best player plays" criteria noted earlier. The Subsea Systems Team (SST) is headed by the Delivery Manager who is directly supported by the appropriate discipline BP Lead Engineers. This core technical management team in turn is directly supported by a technical support staff comprised of Technip Offshore Engineering, Inc. (Technip), FMC and NEXANS. Subsea 7 will be the umbilical installation contractor. The flowlines and risers installation contractor will be identified in 2003.

Contract Administration will include monitoring the long-term contract-related requirements of Atlantis, including those of each of the individual Delivery Teams. The overall contract administration has been assigned to Mustang Engineering, Inc., working on behalf of BP.

The Subsea team's Contract Administrator will be responsible for financial reporting, budget preparation, vendor contracts, cash flow analysis, and vendor change orders. These responsibilities include reporting any contractual modifications and Management of Change processes necessary to meet the project goals and objectives. On a daily basis, each BP Lead Engineer will be responsible for achieving the contractual goals and objectives within his or her assigned discipline.

The overall subcontractor management strategy is to control risk and maximize value. In support of this objective, the BP contracts and procurement group and its Technip support group will develop long term partnerships with subcontractors and vendors based upon historical professional relationships and new relationships with audited subcontractors that are added to the Approved Bidders List as the project develops. All subcontracts must meet the Atlantis Project requirements; such contracts are controlled by assigned personnel as described within the scope of the BP Project Procurement Execution Plan (1440-30-PU-MA-0031).

The subcontracting management strategy developed for Atlantis includes the following essential features:

- Subcontract the parts of the overall Atlantis Project to product groups where the suppliers have core competency or can provide overall benefit to the project.
- Pre-qualify potential subcontractors as critical elements to the success of the project.
- Subcontractors may use internal procedures and schedules if the seller's process meets the Atlantis Procurement Team's minimum requirements.
- Subcontractor and supplier warranty periods and liabilities will be transferred to the project under the BP procurement terms.
- Subcontracting strategies will seek to: align interests, compensation and risk allocation; simplify contractual interfaces; maximize scope definitions to reduce change order potential; and develop "win/win" arrangements.

9.4 Project Management Plan*

The Subsea team is led by the Delivery Manager who will be supported by the BP Project Engineer and specialist BP lead engineers. Specialists and Technip personnel will comprise

* See Attachment 9 for ANF/DC3 specific requirements.

the remainder of the Subsea team. A Technip Project Manager will be assigned for managing personnel and work scope. The Technip Project Manager is responsible for ensuring that all aspects of Technip supply meet the intent of Design Engineering Services Contract (No. BPA-00-01772). Project Management will be in compliance with the referenced contract and subordinate documents and where none exist will use Technip Project Management Practices.

9.5 Operability

Since the Atlantis Field is located in the deepwater frontier in the GoM, all Subsea equipment support operations will be diverless. Current project plans are to have two dedicated ROV system onboard the DDII through first oil and thereafter as deemed appropriate. These ROV systems, including full tooling packages, will be used to assist in the day-to-day production operations which will include manual valve operation, routine inspections and planned and unplanned maintenance. All Subsea equipment (e.g., trees, manifolds, jumpers, control SCMs, etc.) will be installed or retrieved using ROV support.

Due to Atlantis site water depth and relative remoteness (approximately 190 miles South of New Orleans), considerable emphasis has been placed upon component and systems reliability. Using the design philosophy and activities described in Section 6.0, Technical Management Plan, the Subsea Systems Team has focused upon long-term reliability and operability as major design objectives for all Subsea equipment being provided.

The Subsea equipment being developed for the Atlantis Project will be designed to operate effectively and reliably during the following operations:

- Drilling Operations
  - Running and retrieving wellhead systems
  - Running and retrieving test trees
  - Installing and operating IWOCS
- Workover support
  - Completion and Production Operations
  - Well startup
  - Monitoring pressure & temperatures
  - Switching wells to test
  - Routine and emergency shutting in wells
  - Chemical injection
  - Hydrate monitoring and remediation
- ROV Operations
  - Inspection and CP monitoring

  - Pipeline touchdown and pipelay support
  - Pile installation support (suction or drilled)
  - Jumper installation and test
  - Hydraulic and electrical flying lead installation
  - Equipment installation / retrieval (trees, manifolds and jumpers)
- Maintenance and Repair
  - Subsea choke insert and SCM replacement
  - Subsea tree, manifold and jumper replacement
  - Valve override
  - Hydrate remediation support (seawater heating)

Plans and procedures will be developed for drilling, completion, installation and workover operations based upon the best BP practices available. These plans will draw upon BP's worldwide experience to ensure safe, environmentally sound, and cost-effective operations.

The Atlantis Subsea Systems Team is comprised of personnel with diverse backgrounds in drilling, production operations, pipeline construction, Subsea equipment development and ROV operations. This team, together with the Contractor's technical teams, will ensure that operability and reliability are not compromised in the design, fabrication and testing of the Subsea equipment.

9.5.1 Roles and responsibilities*

The individual BP Lead Engineers have the prime responsibility for developing appropriate operating procedures for their respective Subsea equipment. Within the overall Atlantis Team, the Subsea Systems Team will develop these procedures jointly with the Drilling and Operations groups as appropriate to ensure the operability and long-term reliability of the Subsea equipment.

Planning for field operability begins during the design phase of the equipment. To provide the necessary input and involvement of the Drilling / Completions and Operations groups, a series of Operability Reviews have been planned during the development of the Subsea hardware. The BP Lead Engineers will work with all the contractors to ensure that various suppliers of components and sub-systems for the Subsea equipment will interface with each other and the other equipment areas (i.e., Topsides, Hull Systems, etc.).

* See Attachment 9 for ANF/DC3 specific requirements.

9.5.2 Objectives and Goals

The operability objectives for the Subsea Systems Team are to ensure that the Subsea equipment is designed in a manner that provides safe, continuous and easily accessible operations. These objectives should be met during all phases of the project: drilling, installation, production and maintenance. Sufficient flexibility in design will be incorporated to allow for future enhancements to expansion and / or rearrangement.

9.5.3 Resources

As described in Section 6.1, the BP Lead Engineers will assume leadership responsibilities for the development of their respective equipment packages. They will be supported by contractor personnel as required. The Subsea System teams will work closely with the Atlantis Drilling / Completions and Operations groups as appropriate to ensure effective operating plans are developed. Contractors who are participating with the equipment fabrication and installation will also contribute to the preparation of the operating procedures.

9.5.4 System Integration Testing (SIT)

A comprehensive series of tests will be performed on the Subsea equipment during the SIT. The SIT testing is intended to verify the compatibility of all interfacing components. Each Contractor will be responsible for coordinating their respective equipment for the tests. The Atlantis Subsea Systems SIT will likely be performed by FMC at its Gears Road facility since it is the supplier of most of the Subsea systems.

Each Contractor will provide a list of their recommended tests required to verify proper operation and interfacing of their equipment with other supplier's hardware. Extensive tests will be performed to ensure adequate ROV tooling access and operation of the intervention hardware.

Other off-site (FMC) tests will be conducted if it is determined that such tests (i.e., ROV Tooling Tests) are of advantage to the project.

ROV procedures and SIT testing will be managed by the BP Well Systems Lead.

9.6 Transportation Plan

A definitive Subsea team Transportation Plan has not yet been prepared for the Atlantis Project. However, the overall responsibility for establishing the necessary contractual arrangements will be assumed by the BP Subsea Systems Project Administrator. Insofar as specific equipment packages are concerned, it will remain the responsibility of each BP Lead Engineer to ensure that his/her equipment has been fully tested and complete in all

respects regarding hardware and documentation before the equipment is loaded for shipment. The equipment documentation will include all deliverables identified in each Work Package Release's "Contractor Data Requirement List" (CDRL) and/or each equipment functional design specification (FDS).

9.6.1 Purpose

The purpose of the Atlantis Subsea Transportation Plan is to ensure all Subsea hardware is shipped efficiently, cost-effectively and in a timely manner. Good management of the individual equipment shipments is essential to avoid costly delays in the program, especially if overseas shipment is necessary. A project goal will be to economically organize crating, freight, insurance and documentation for all Subsea equipment.

9.6.2 Implementation

A Transportation Plan has been put into place by the Subsea Team for the Atlantis project and it is found in BP document # 1440–10–PU–PR–0009 (Technip Doc # 3478-BPO-PA-0002) Logistics and Transportation Plan

It is expected that the BP Procurement Group with Deepwater Development (DWD) logistics will develop a detailed Transportation Plan in due course. This plan should include the appropriate contractual arrangements and processes with common carriers for the necessary hardware packing, shipping, documentation and insurance. Opportunities to reduce transportation costs should be identified in the Plan, such as consolidating shipments when possible, co-insuring with the manufacturer's coverage, etc. This plan will need to be customized to Atlantis Subsea by the BP Project Administrator.

A separate schedule and procurement database will be established and maintained to track materials and monitor shipping status. The schedule will link to the master Subsea Systems Project Schedule to highlight any critical path items. Weekly reports should be prepared giving the status of delivery and highlight any item that may require expediting. The schedule and weekly procurement status report will be distributed to provide project-wide notice of shipping and project needs. The weekly report should also include performance-measuring sections to highlight goal achievement and report upon such transportation parameters as mean time for shipment, on-time delivery, late delivery and cost vs. budget reviews.

Equipment packaging will be as per Frame Agreement, contract or as otherwise agreed and approved by the Subsea team. It is expected that the BP Procurement Group will arrange the necessary packing for safe handling. Shipping, with appropriate documentation and insurance arrangements through BP selected carriers, shall be approved by BP.

9.7 PQ Integration Plan

A detailed plan and schedule shall be developed to cover the installation and integration of equipment as to the PQ host vessel. This plan shall be developed by the Subsea Installation and Integration Team (IIT), now the Offshore Leadership Team (OLT).

The Integration Plan shall address such issues as:

- Contractors
- Project Management
- Equipment Installation
- Commissioning
- Operations
- Work Execution

9.8 Offshore Installation Plan*

The Installation Plan for the Atlantis Subsea equipment includes installation of the following equipment. The plan, to be developed by the selected Installation Team, will include a detailed schedule and information similar to that listed in Section 9.7 above.

- PLET Initiation Piles
- Manifolds
- Manifold Foundation Piles
- Production / Test Flowlines and Risers
- Water Injection Flowlines and Risers
- Pipeline End Terminations (PLETs)
- Flowline Anchoring Units
- Hydraulic Umbilical Termination Assembly (HUTA)
- Electrical Umbilical Termination Assembly (EUTA)
- Hydraulic and Electrical Umbilicals
- Hydraulic and Electrical Flying Leads
- Manifold to Manifold Jumpers
- Tree to Manifold Jumpers
- PLET to Manifold Jumpers
- PLET to PLET Jumpers
- Production Trees
- Water Injection Trees

* See Attachment 11 for Split Campaign

- Manifold Pigging Loops

Installation procedures, schedules and plans will be developed to facilitate a safe and efficient installation for all of the above equipment with attention to the ability to retrieve the equipment or retrievable parts of it, if required for repair.

The primary purpose of the Installation Plan is to ensure that the interfaces, process of installation and the environmental conditions are adequately analyzed and investigated. The installation process for all of the above equipment must be considered during the design phase to ensure that the installation can be performed in a safe and efficient manner.

In the event that installation cannot be conducted as the base case schedule, a split installation campaign could be envisioned. Such a campaign will be conducted under a management of change (MOC) requirements. The "Split Installation Campaign" will be defined and described in attachment 11 of the document.

9.8.1 Scope Of Work

It is planned that development drilling by a mobile drilling unit (MODU) will commence in Q1, 2004. A total of five (5) production wells are planned to be completed prior to First Oil in Q2, 2006. The current development plan shows all wells being drilled from DC1 (Drilling Center #1).

Current development and installation schedules assume some overlap of drilling and installation activities during the first phase of installation. Primary installation contractors will be contracted to install the installation of the flowlines, risers, PLETs, umbilicals and UTAs. The Subsea construction at DC1, including trees, jumpers, flying leads, manifolds, piles and mudmats, is envisioned to be performed using the DDII dynamically positioned over DC1. This work, or parts thereof, may also be contracted to a different contractor if this proves to be efficient and operationally attractive.

The Subsea Systems Lead Engineers will endeavor to ensure that the equipment to be installed is designed for that purpose in a safe and efficient manner. This will include the incorporation of handling means (lifting eyes, running tools, etc.), provision for proper engagement with mating parts (orientation, soft landing, hydraulically or ROV-operated connections, high-angle make or break connectors, etc.), surface tests wherever possible to simulate Subsea remote connections, and generation of Assembly, Test, Running & Installation procedures for every Subsea installed component or system.

9.8.2 Organization

The ultimate responsibility for each of the subsea equipment packages resides with the BP Lead Engineer for each discipline. The major disciplines are: Flowlines and Risers; Umbilicals; Controls; Manifolds; PLETs; Jumpers; and Trees. The installation phase will be performed under the direction of the Subsea Systems Team with the BP Lead for each equipment area having the responsibility for installing his / her equipment. Each Lead will have access to an Installation Consultant that will provide specialized consultation, procedure development, contractor evaluation and support during the installation operations as required. The Installation Consultant will have responsibility for the overall safety and efficiency of the installation operations.

9.8.3 Interfaces*

The primary interface teams for the Subsea Systems installation activities include:

- For wellhead, tree and manifold equipment:
  - Drilling team
  - Topsides team
- For the flowlines and risers:
  - Floating systems team, which includes Hull and Topsides teams
  - Mardi Gras team
  - Commissioning team
- Atlantis PQ builder (DSME)
- Integration yard team

9.8.4 Implementation

The implementation of the Installation Plan shall be as early in the project as possible since installation is part of the considerations given to each component during the design phase. Preventing re-design or later revisions caused by unforeseen installation requirements can save significant time and money.

The preparation of preliminary installation procedures was started in August, 2002.

9.8.5 SIMOPs

The BP Installation team is responsible for preparation and development of the Installation Plans and SIMOPs Plans, with detailed plans being developed by chosen installation contractor. Such plans will be reviewed and approved by respective BP Leads and the BP Installation Coordinator.

---

* See Attachment 9 for ANF/DC3 specific requirements

9.9 Severe Weather Contingency Plan

A Severe Weather Contingency Plan will be developed once Installation Contractors have been selected. Responsibility for other severe weather plans remains with the Floating Systems and Operations Teams.

9.10 Offshore Logistics

Offshore logistics will be coordinated through the BP Fourchon facility by the BP Project Administrator or as otherwise directed.

9.11 Subsea Commissioning and Start-up Plan

A detailed plan shall be developed to cover the commissioning of Subsea equipment. This plan may be split into various sub-plans such as commissioning for PQ and commissioning for MODU. Additionally sub-plans can be considered which address specific specialist areas such as Control System, Diverter System, etc.

Each discipline lead is responsible for developing an associated plan while the Installation team is responsible for integration of all plans. Such plans should address issues of:

- Workforce make-up
- Operations
- Hook-up
- Commissioning
- Support for other teams
- Demobilization

9.12 Operations Plan

The Subsea Systems Team will assist Operations in developing a maintenance program for all Subsea equipment. This will include the acquisition of recommended spare parts needed for Subsea equipment for both planned and unplanned maintenance. The prime contractors, who are selected in part because of their experience and commitment to long-term service and support, will assist BP in the planning and documentation of the maintenance program.

9.12.1 Planned Maintenance

The BP Leads in conjunction with the Subsea Team and with Operations will acquire, review and approve the data necessary for planned maintenance procedures from the respective equipment manufacturers. This documentation will include repair manuals and the recommended schedule for planned maintenance and details of the maintenance operations. The manufacturers will also provide all identifications such as part numbers,

name plate data, etc. The planned maintenance schedule and component information will be inputted into an appropriate BP database system. The Subsea Team will also identify and provide any special tools or materials required to disassemble and/or repair the Subsea equipment.

The Subsea Systems Team will also work closely with Operations to ensure that appropriate training is available and taken by all technicians who will be working on the specialized Subsea equipment. Any specialized training, such as ROV equipment and operations, will be provided by the service company selected for this work. Each specialized equipment or service company providing technicians to the Atlantis Project will confirm to BP the specific training each technician has taken.

9.12.2 Maintenance Organization

Using input from the Atlantis Operations group, the Subsea Systems Team will outline the responsibilities for upkeep and repair of the Subsea equipment and set out a recommended operational hierarchy for carrying out future maintenance. Delegation of all maintenance responsibilities will be clearly defined within the onboard (PQ and MODU) organizations. If long-term maintenance is required by the Project, Operations with support from the Subsea Team will establish appropriate long-term support and service contracts with specified manufacturers.

9.12.3 Spares Philosophy

During the final design phase of the Subsea equipment, a recommended spares list will be developed for each of the Subsea systems and their components. It will be the responsibility of each BP Lead Engineer to ensure that this list is complete and accurate for his / her discipline equipment.

The recommended spares lists will be reviewed with the Operations groups for their inputs. In coordination with Operations, the Subsea Team will order the initial spare parts needed for field commissioning (start up) and a specified initial period of field production.

9.13 First Year Production Efficiency Plan

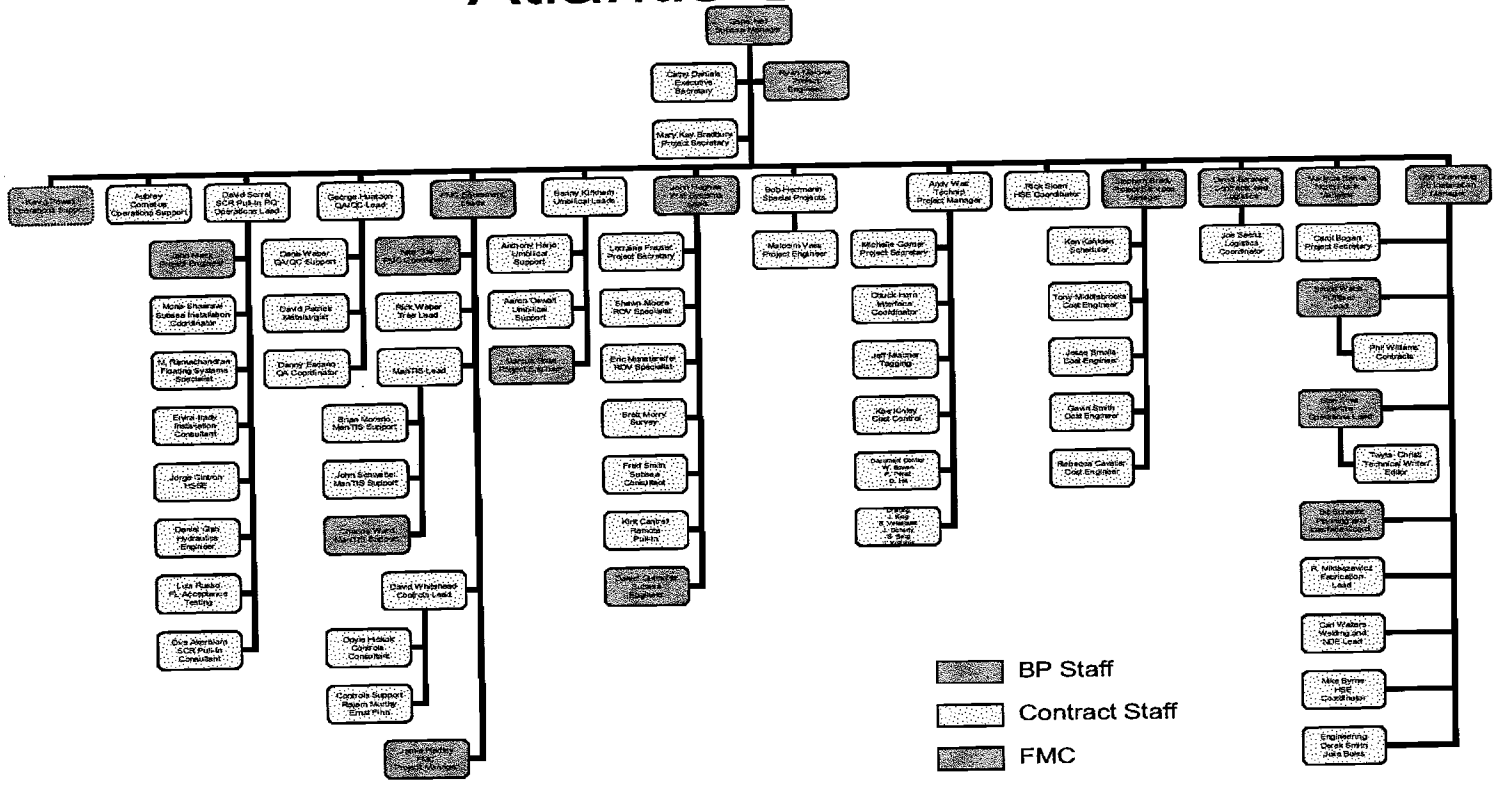
The Subsea system will be designed to maximize first year production efficiency as defined by Operations. Field layout will also incorporate systems or methods for enhancing production to meet production efficiencies beyond year one.

ATTACHMENT 1

Atlantis Project Organization Charts

- Atlantis Subsea Project Team
- Atlantis Project Services Team (See section 3.3.2)
- Atlantis Riser/Flowlines Installation Team
- Atlantis Project Team (FMC)
- ADC Org. Chart **(See Atlantis Project Team Chart)**
- DC 3 Execute Phase Org. Chart

Atlantis Subsea

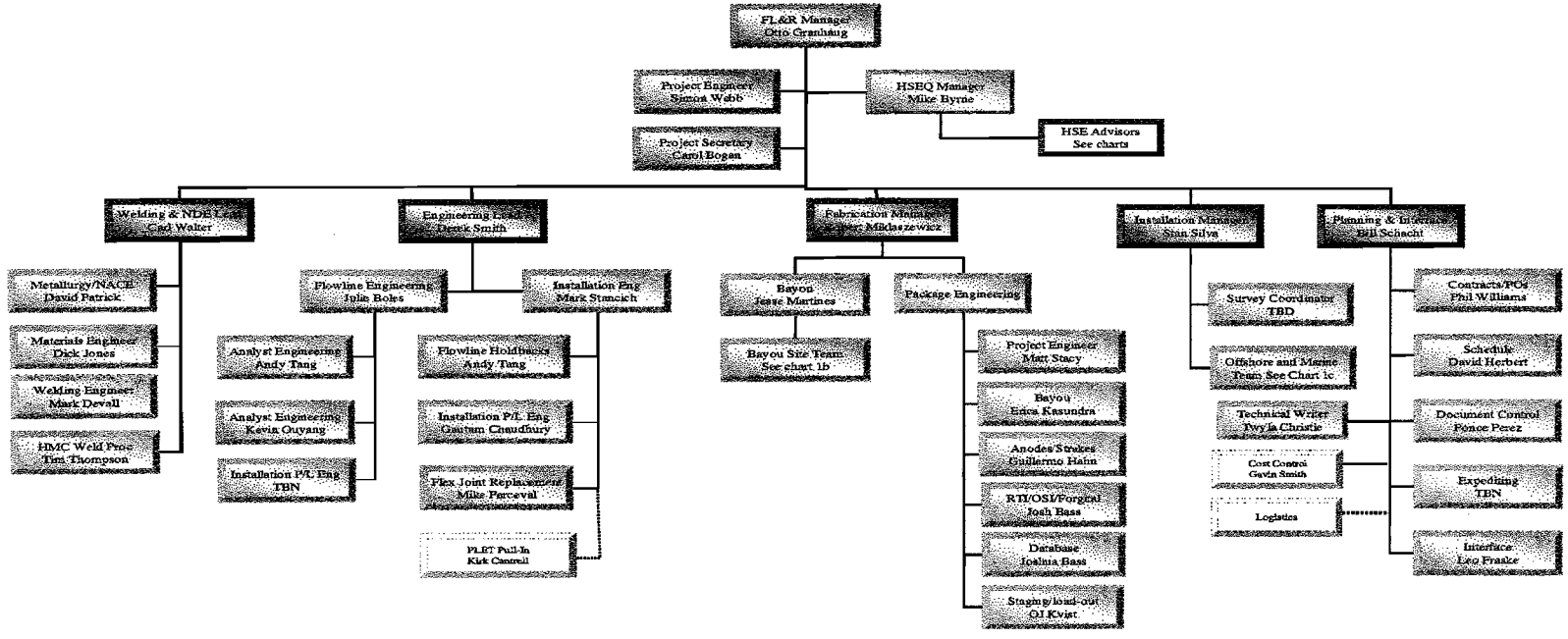


8/30/2006

T:\Atlantis\B.1 General Engineering\03 Major Project Definition Documents\03 Project Execution Plan\Rev 3\3478-BPM-RA-0001 Project Execution Plan Rev 3.doc

Case 4:09-cv-01193 Document 345-8 Filed in TXSD on 04/04/12 Page 100 of 147

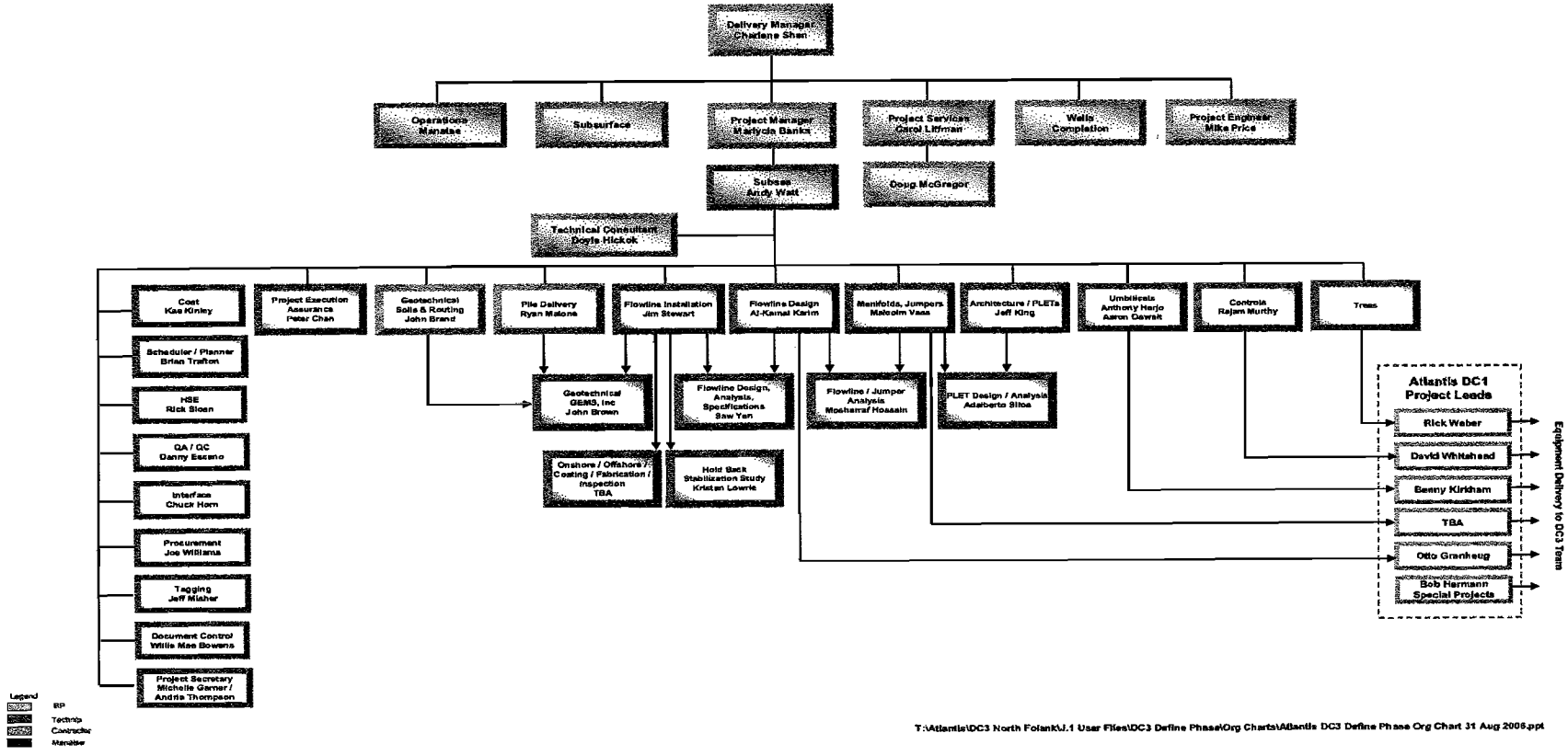
Atlantis Flowlines and Risers Group Chart 1 – General Organization



Case 4:09-cv-01193 Document 345-8 Filed in TXSD on 04/04/12 Page 101 of 147

bp

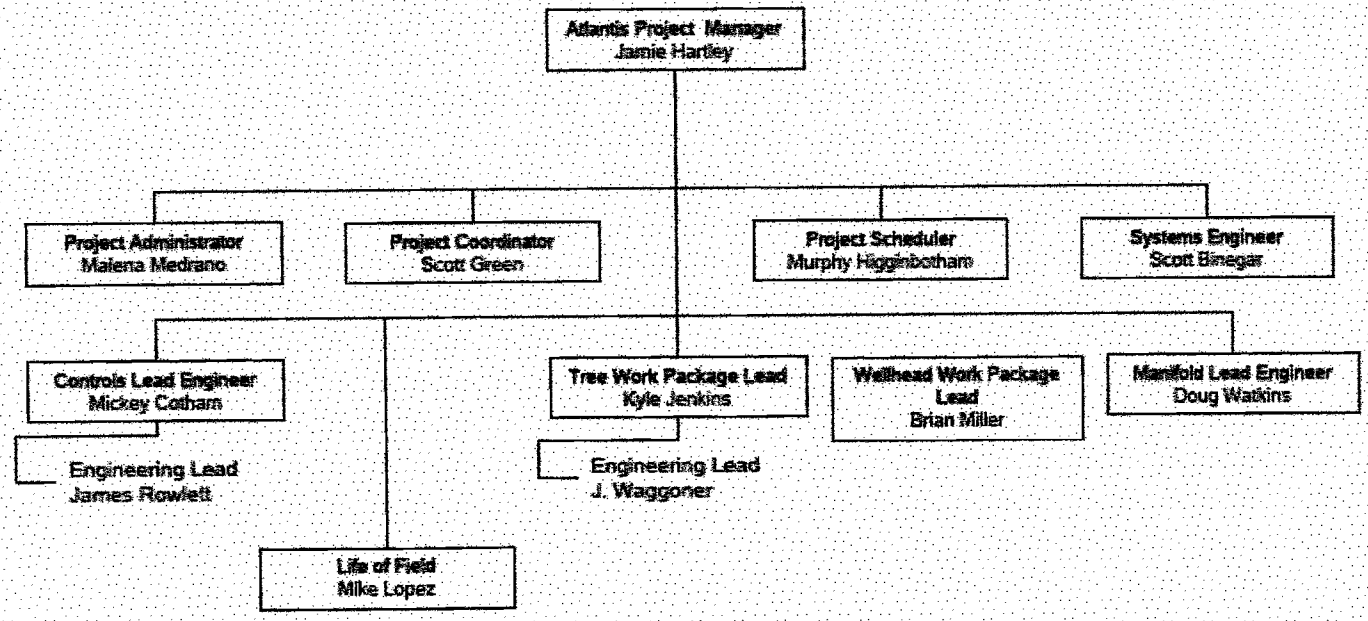
Atlantis DC3 Execute Phase Organization Chart



T:\Atlantis\DC3 North Folank\J.1 User Files\DC3 Define Phase\Org Charts\Atlantis DC3 Define Phase Org Chart 31 Aug 2006.ppt

Case 4:09-cv-01193 Document 345-8 Filed in TXSD on 04/04/12 Page 102 of 147

BP Atlantis



Case 4:09-cv-01193 Document 345-8 Filed in TXSD on 04/04/12 Page 103 of 147

ATTACHMENT 2

Atlantis Key Representatives and Addresses

ATTACHMENT 3

Project Meetings Calendar

ATTACHMENT 4

Work Breakdown Structure (WBS) Diagrams

BP ATLANTIS
CONFIDENTIAL WORK PRODUCT

ATTACHMENT 5

Schedules

ATTACHMENT 6

"BP Data Security and Information Brokering"

ATTACHMENT 7

INTERNATIONAL TRAVEL REQUIREMENTS FOR CONTRACTORS"

BP America Inc. – 11700 Old Katy Road – Suite 150 – Houston, TX 77095
Telephone: (281)249-4304 – Facsimile (281)249-4323

Surburban Physicians Center
12345 Katy Freeway
Houston, TX 77079
(281)679-5600

Hours of Operation
M – F 7:00 a.m. – 10:00 p.m.
S – S 8:00 a.m. – 9:00 p.m.

No Appointment Required

RE: INTERNATIONAL TRAVEL REQUIREMENTS FOR CONTRACTORS

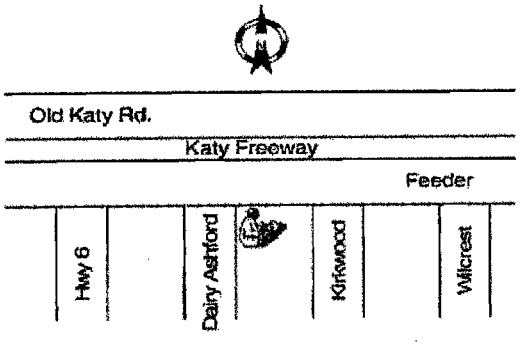
_____ requires a medical assessment, basic physical,
(Name of traveller)

UA, travel immunizations (if required), and travel kits to _____.
(Name of country)

SERVICES WILL BE PAID FOR BY THE INDIVIDUAL!

Should you require further information, please contact Cathy Daniels at (281)249-4304 or Gary Barker at (281)366-4766.

THANK YOU



ATTACHMENT 8

BPs GOLDEN RULES OF SAFETY

ATTACHMENT 9

DC3 Specifics

1.0 Following the Atlantis Statement of Requirements (SoR) Doc No.1440-10-AS-DC-001 Rev1, the Atlantis Design Basis Doc No. 1440-30-SB-DC-0033, the Atlantis North Flank Single Well Tie-back Project, Project Execution Plan (PEP) Doc No.1440-10-PM-RP-0002 is the highest level project execution plan document for the Atlantis North Flank (ANF) development. This attachment (Attachment 9) acts as the link between the higher level PEP described above and this PEP which describes the methodology under which the ANF/DC3 Subsea project team will operate.

The Project Management Plan, BP Document No. 1440-10-PM-PR-0003, contains the strategies for how to accomplish the project and the plans and procedures for processes that are common to all delivery teams of the project.

The purpose of attachment 9 is to highlight the specific variations of the subsea team project execution plan. The variations addressed will be as referenced in the Subsea Project Execution Plan following Table of Contents as noted in this document Technip Doc. No: 3478-BPM-RA-0001. Any sub paragraphs that are not highlighted will assume that ANF/DC3 project execution will comply with the overall Atlantis project requirements.

2.0 Health, Safety and Environment

- DC 3 will adhere to the Atlantis Subsea PEP Health, Safety and Environmental plan except that Table 2.2-2 defines DC 3 Major HSE Activities.

Table 2.2-2: DC3 MAJOR HSE / FSA ACTIVITIES

Description	Timing
Operability Review Session 1	Oct 2005
Operability Review Session 2	Feb 2006
Flowline Route Peer Review	Nov 2005
Slope Escarpment Feasibility Study	TBD
Ocean Bottom Seismic Study	TBD
Mardi Gras Pipe Lay Lessons Learned	Jan 2006
Soil Stability Analysis	Feb 2006
Product Introduction from North Flank HAZID	TBD
Execute PHSER	Jul 2006
Dropped Object Workshop	Aug 2006
Final Operability Review	Jan 2007
HAZOP	TBD
Construction / Detailed Engineering PHSER	Oct 2006
Tree Assembly Lessons Learned	Aug 2006
Manifold Fabrication Lessons Learned	Nov 2006
Manifold Installation Lesson Learned	Jul 2007
Tree and IWOCS Installation Lessons Learned	Jul 2007
Jumper Kit Fabrication and Assembly Lessons Learned	Jun 2007
PLET Assembly HAZID	Oct 2006
Flowline Acceptance Testing HAZID	Jan 2007
Jumper Installation Lessons Learned	Jul 2007
Remote Pull In HAZID	Dec 2006
Flowline Load Out HAZID	Nov 2006
Flowline Installation Lay & Pull-in HAZID	Nov 2006
PLET Installation Lesson Learned	Nov 2006
Bayou Coating Risk Lessons Learned	May 2007
Manifold SIT Lessons Learned	May 2007
Umbilical Installation Lessons Learned	Feb 2007
Umbilical Loadout Lessons Learned	Feb 2007
SIMOPS HAZID	Oct 2006

In addition, the Atlantis North Flank development will be executed against the expectations and elements contained within the BP GoM HSSE Management System including but limited to the:

- BP GOM Safe Practices Manual http://docs.bpweb.bp.com/dkgom/custom/dk/dk_view_content.jsp?objectid=0900a88580016557&path=/us_wl_dk_gom_hse:/content/hssems/gom_unified/UPS-US-SW-GOM-HSE-DOC-00404-2
- BP GoM Contract Aircraft Guidelines http://docs.bpweb.bp.com/dkgom/custom/dk/dk_view_content.jsp?objectid=0900a8858000c186&path=/us_wl_dk_gom_hse:/content/hssems/gom_unified/UPS-US-SW-GOM-HSE-DOC-00072-2
- BP GoM Crane Operation & Maintenance Program http://bp1houdm103/us_wl_dk_gom_hse:/website/custom/crane/toc_crane_ope_mgmt_prog.htm?docbase=us_wl_dk_gom_hse&ticket=vlinkpass&username=bp_vlink&rootpaths=%2Fwebsite%2Fcustom%2Fcrane%0A%0D
- BP GoM Operations Guidelines & Recommendations for Offshore Support Vessels http://bp1houdm103/us_wl_dk_gom_hse:/website/custom/offshore_support_vessels/10023_gom_operations_guidelines_and_recommendations_for_of.pdf?docbase=us_wl_dk_gom_hse&ticket=vlinkpass&username=bp_vlink&rootpaths=%2Fwebsite%2Fcustom%2Foffshore_support_vessels%0A%0D
- BP GoM Naturally Occurring Radioactive Material (NORM) http://docs.bpweb.bp.com/dkgom/custom/dk/dk_view_content.jsp?objectid=0900a8858000c1b7&path=/us_wl_dk_gom_hse:/content/hssems/gom_unified/UPS-US-SW-GOM-HSE-DOC-00121-2
- BP GOM MOC Database (Management of Change) http://moc.bpweb.bp.com/
- BP Traction System (Incident Reporting) http://traction.bpweb.bp.com/
- BP IMS (Incident Management System) http://hcc.bpweb.bp.com/
  - Vol.1Incident Management
  - Vol. 2Regional Oil Spill Plan
  - Vol. 3Severe Weather Contingency Plan
  - Vol. 4 Incident Management System – Houston Region Crisis Management Plan
- BP EMS (Environmental Management System) http://bp1houdm103/us_wl_dk_gom_hse:/website/hssems/content/ems_entire_gom.htm?docbase=us_wl_dk_gom_hse&ticket=vlinkpass&username=bp_vlink&rootpaths=%2Fwebsite%2Fhssems%2Fcontent%0A%0D

3.0 Project Management – Administration

The ANF/DC3 project team is an integrated multidiscipline team composed of BP staff and contractors, with BP responsible for overall management of the project. The team is composed of staff from disciplines including subsurface, wells, subsea, operations, project services, HSSER, and commercial.

The individual team managers / leads both to their functional delivery managers and the ANF Project Manager. This matrix organization is adopted due to the parallel project deliveries required by both the Atlantis South main development and this project. Except for a few dedicated ANF staff, most of the work will be performed in the delivery teams by the embedded Atlantis South personnel who will be required to share time between the projects, making careful staff management a key success factor. The matrix organization would ensure the transfer of best practices and standardization in our equipments and procedures. Managing conflicting work requirements and providing clarity on priorities, roles and responsibilities will be controlled at the Business Unit level. The core Atlantis North Flank Project Team organization chart is presented on the DC3 Execute Stage Organizational Chart listed in Attachment 1.

3.1.1 Goals and Objectives

Measures that will demonstrate success in the ANF achieving its goals are:

- Excellent HSE performance: no accidents, no harm to people, no damage to environment
- Development cost of less than 130 million CAPEX target.
- Subsea equipment installation within project schedule for 1st oil by May 08'
- High first year operability

3.2.4 Project Management Documents

The following documents illustrate the management documents that will be used as tools for communicating internally and externally to the ANF/DC3 Project Team:

- **ANF/DC3 Project Schedule**
  The overall Project Schedule organizes when the scope of work and deliverables need to be done and shows the dependencies of one delivery team on another.

- **Project Organization Plan**,
  Refer to sections 3.3 through 3.6 of this document. The Project Organization Plan defines who is accountable for the work and how they relate to one another.

- **Project Organization Chart**

Reference Figure 2.1.1 Organization Chart (Execute Stage) from ANF Single Well Tieback Project, Project Execution Plan (PEP) (Execute Phase) **Document No: 1440-10-PM-RP-0002.** For ANF/DC3 team members refer to Attachment 1 Subsea Execution Project Execution Plan (PEP) Execute Phase of this document. Team members shall complete deliverables through the existing DC 1 Atlantis BP equipment lead personnel. The complete Atlantis Organizational Charts are also found in Attachment 1 of this document.

4.2.3 Schedule Update

The major events and key milestones for the ANF/DC3 project are given in the following Table 4.2-3

Table 4.2–3: KEY SUBSEA SYSTEMS MILESTONES for ANF/DC3 Phase

Milestone or Event	Date
Complete Concept Development (Select Phase)	Sept 2005
Complete FEED (Define Phase)	Nov 2005
Start Execute Phase	Oct 2006
Start Subsea Equipment Fabrication (Non-Standard Equipment)	Aug 2006
Start SIT Testing	Dec 2006
Install Subsea Equipment	Feb 2007
Install Flowlines & Risers	July 2007
Install Umbilicals	Mar 2007
Commission Subsea System	Sep 2007
Deterministic First Oil	1Q 2008
Sanction First Oil	3Q, 2007

4.3 Estimating

The objective of the cost management plan is to provide the framework for the development, maintenance and reporting of project cost information. Existing Atlantis South procedures will be used for the definition, control, and forecasting the financial position of the ANF Project. Atlantis' facilities cost information including budgets, commitments, invoiced amounts, accrued Work-In-Place (WIP), and forecast total-installed-cost (TIC) are controlled using Kildrummy's Cost Manager Software. This work is performed by the cost engineer(s) under the day-to-day direction of he delivery team project service leads. The cross-team consistency of the data is overseen by the Atlantis cost functional lead.

The baseline for cost reporting will be the Execute Stage estimate prepared for sanction by the Subsea team based on the best available data and including provisions for likely market pressures. The estimate was put through a externally facilitated BRISK analysis in April 2006 to determine an appropriate level of Unallocated provision (UAP).

6.9.3 Roles and Responsibilities

The Subsea Team (SST), acting as the Subsea equipment general contractor, will provide the technical leadership and resources necessary to complete the work outlined in the SoR and individual equipment Functional Design Specifications (FDS). Within the SST, specific

BP Lead Engineers will be assigned for each major discipline area. These Lead Engineers will be supported as required by Technip and FMC technical teams.

The prime contractors are responsible for the work identified by the scope of work of their respective contracts as it relates to the project. They are also responsible for subcontracts pertaining to the project where major interfaces or direct connections exist between their equipment and the specific subcontract. Prime contractors are chosen on the basis of their technical and project management skills and their commitment to providing long-term service to the Atlantis project. They are accountable for the overall engineering, construction and testing of the various components defined by their contracted scopes of work.

7.0 Interfaces

As the strategic link to the PQ Floating Systems (topsides and hull teams), the SST will provide the necessary interface information for all critical items. The BP Lead Engineers responsible for contracted work scope serve as the focal point for all aspects of the work being performed.

8.0 Procurement and Procurement Plan

Equipment and services for the Atlantis North Flank Single well tie-back project will be procured using sound business practices, from sources that provide maximum value as defined by quality, price, delivery, reliability, existing alliances and applicable laws and regulations. All procurement activities will adhere to BP Ethical Standards and comply with BP Group Procurement Policy and systems of internal control.

- HSE requirements will be worked in advance of all commitments to 3rd party suppliers and contractors.
- Standardization and utilization of existing BP agreements will be adhered to where applicable.

Equipment or services in excess of $1mm will have a written strategy to ensure compliance with policy. Competitive tendering will be the norm for all procurement activities. When not applicable or existing market conditions dictate, authority to Negotiate and Sole Source justifications will be documented and approved prior to any commitments to 3rd party suppliers or contractors. Specific subsea equipment to be procured are listed in section 4.2.1 of the ANF/DC3 PEP

9.0 Construction Plan

It is the intent of the project team to conduct subsea fabrication and installation in compliance with selected BP design specifications, follow all technical assurance processes

throughout the design and installation phases, and ensure the long term safety and operability of the Atlantis North Flank single well tie-back wells. Activities will include:

- Develop project specifications, philosophies, and design guidelines where they vary from the already existing Atlantis documents;
- Ensure that BP Technical Assurance Process is followed, including MOC process;
- Conduct Health, Safety, Security, Environment and Regulatory Reviews;
- Ensure GoM Safe Work Practices are followed throughout construction and installation phases of the project;
- Develop subsea installation, commissioning, and handover procedures;
- Develop and adhere to quality control/assurance plan;

Submit necessary documentation for regulatory approvals as it pertains to Atlantis North Flank single well tie-back.

9.3 Contracting Plan

At this time, it is envisioned that the Atlantis rig, Development Driller II (DDII) will install all equipments (tree, jumpers, controls, manifold, flowbase) in a similar manner to the DC1 installation if the rig schedule permits or if SIMOPS can be achieved. Subsea tree installation will definitely be managed by the Drilling and Completion team and run from the drilling rig. For the installation of other subsea equipments, vessel availability, costs and installation synergy will be considered in the decisions. For example, the subsea jumpers are small enough to be installed using light subsea construction vessel, however, these jumpers could be installed from the DDII while working in the SIMOPS mode as per DC1 installation strategy.

ATTACHMENT 10

BP Atlantis Project Final Vendor Data Book Letter

BP America Production Company
501 WestLake Park Boulevard
Houston, Texas 77079

type date

type vendor name
type address
type city, state, Zip

Attention:type name, if applicable; if not, delete this line

RE: BP Atlantis Project Final Vendor Data Books

Dear Vendor:

The Atlantis Subsea team is starting to receive Vendor Data Books. BP Operations (final BP client) has requested the following:

Book Marking - All books sent to the project should be Book Marked by installing tabs/dividers according to relevant information. The tabs should have titles marked on them to allow for quick reference for the operations team.

Electronic Files – The entire Data Book should be submitted in electronic format in addition to hardcopies. The electronic files shall not exceed 2 MegaBytes of data per file. It has been brought to our attention that computer servers which handle vendor documentation cannot handle voluminous manuals which are not provided in separate file format. Also, it is preferred that tabbed sections remain whole, and not be separated between electronic files.

Documents – We understand that our vendors have their own documentation processes, but BP requires that a BP document number be used upon transfer to us; furthermore, this number should be clearly visible on the first page of each (ALL) issued document(s). If you need assistance with your BP document number, please contact Willie mae Bowens at wbowens@technip.com.

Final Data Book - It is required that individually issued documents that pertain to Final Data Books for Operation, Reference, or Maintenance, be provided to us within one large Final Data Book. It may, however, be issued as separate volumes of the same Final Book (i.e., Vol. I – Technical, Vol. II – Maintenance, Vol. III – Operating Procedures). A Table of Contents that references Tabs and Book Volumes should follow the title page in the Final Book.

Document Release – We require as a minimum, and as per Work Package Releases or Purchase Orders, that two (2) hardcopies and one (1) electronic copy be submitted to our Document Control group when you release Final Data Books to us.

Please contact Jeff Misher at jmisher@technip.com for inquiry or clarification.

Thank you for your cooperation,

Rochelle Savel
Supply Chain Management – Deep Water, Deep Gas Business Unit
Atlantis Subsea Project Team
Rochelle.Savel@bp.com
BP AMERICA PRODUCTION COMPANY

ATTACHMENT 11

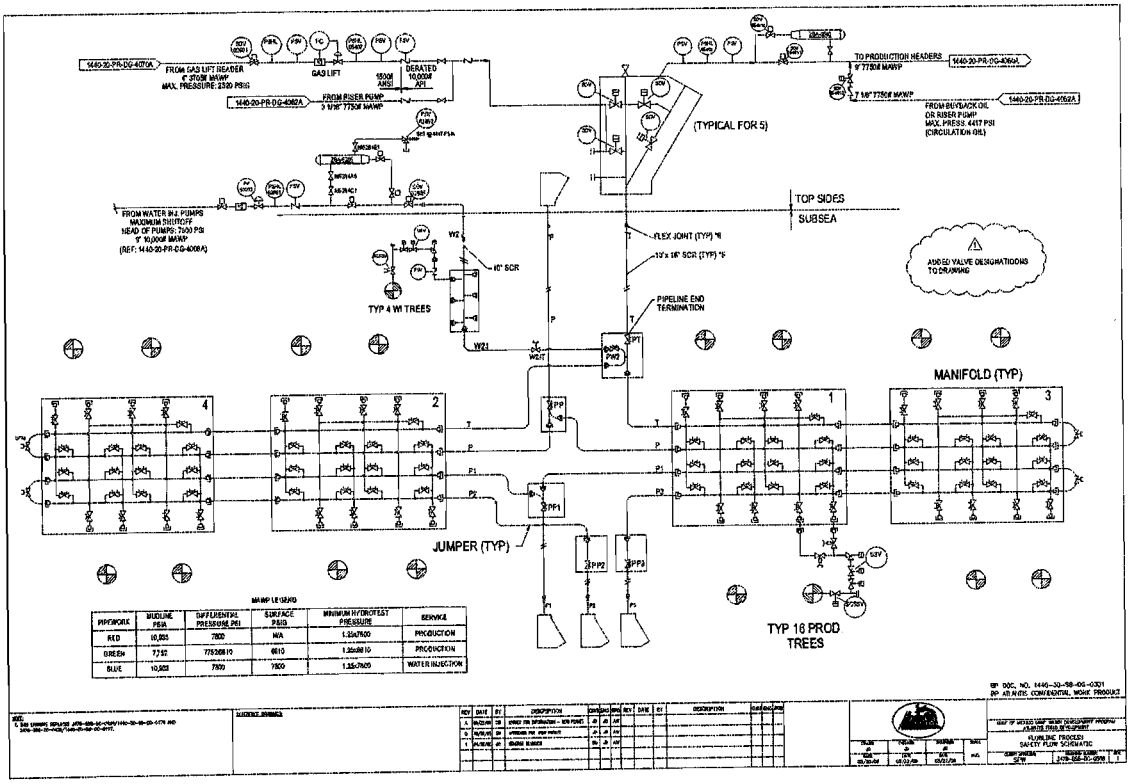
Split Installation Campaign

1.0 The purpose of attachment 11 is to the document the activities involved in the execution of the Atlantis split campaign operations to ensure adherence and conformance to the strategy as defined in the overall Atlantis project execution plan (PEP). The split campaign philosophy shall be documented in the PEP to provide direction for the development of specific tasks, process requirements and approvals and buy-ins from the various Atlantis project teams. This prime objective is to ensure that a well coordinated plan among the major project teams, including the Floating Systems, Wells and Operations Team's for a successful execution of the spilt campaign.

2.0 Terms of Reference

The Task Update Summary document provides direction and identifies major activities required for the proper execution of the split campaign operations. This document shall be updated as decisions and changes are made pertaining to the execution plan. Fig 11-1 shows the schematic for the split campaign start up. See Attachment 11-1 for the detailed Terms of Reference

Fig 11-1
Split Campaign Proposed Start up



Terms of Reference – Revision 5
Split Flowline / Riser Installation Campaign

Objectives: Investigate feasibility of an Atlantis start-up after Balder completion of a Phase I (out of II) flowline riser installation. Phase I scope includes lay and tie-in the W2, T and P flowlines and risers. The Balder is assumed to be demobed prior to beginning of the Phase II scope, and is assumed to begin some time period after start-up when it is remobbed. The umbilical scope during Phase I is considered to be H2, E2, H4, H6, and E4, installed by Subsea 7.

Phase II scope includes installation of the P1, P2 and P3 flowlines and risers by the Balder, and follow-on installation of the H3, H5, and H7 umbilicals by another 3rd party vendor (e.g. Subsea 7 or other).

Identify any incremental activities / tasks that will require completion, in addition to the deliverables for the base case start-up plan (i.e. all 6 flowlines / risers installed). Develop concept split start-up plan to extent that sufficient project data / activities are available to declare a new Atlantis Base Case schedule (subject to MOC).

Tasks / Resources

Split Start-up Plan – SELECT PHASE:

Task	Critical	Description	Task Leaders
1.		Review and approve Phase I TOR w ALT. Expected SELECT Gate deliverables (in Decision Support Package): • Split Start-up Plan / options (w schedule and production profile) • Extended Project Staffing requirements • Major risks and mitigating actions • Major tasks and enablers • Decision milestones • Economics comparison to base case	ALT
2.		Define high level installation plan Deliverables: Phase I and Phase II installation sequences	Simon Webb / Ryan Malone
3.		Perform Regulatory Gap Assessment Deliverables: Permits / amendments required and concept plan to deliver for start-up scenario. Impacts on requirement for	Dennis Sustala

Task	Critical	Description	Task Leaders
		permanent COI.	
4.	●	Define subsea and topside isolation plan – plan necessary to isolate system from equipment gap created by missing P1, P2 and P3 flowline / risers and any umbilicals. Deliverables: any incremental long leads items and work scopes necessary for isolation	John Mack / Ken DeJohn
5.	●	Perform Phase I commissioning activity gap assessment (compared to Base Case Atlantis commissioning plans/procedures) and determine conceptual activities required for commissioning of Phase II installation. Deliverables: revisions or additional procedures necessary for Phase I Early Start-up commissioning, and conceptual Phase II commissioning plan. Identify any new additional long lead items.	John Mack / Mike Mills
6.	○	Perform Topsides / Marine Systems readiness assessment Deliverables: Schedule drivers for early start-up	Mike Mills
7.	●	Perform Phase I Early Start-up plan, start-up activity / operations, gap assessment (compared to Base Case Atlantis start-up plans/ ops procedures). Deliverables: revisions or additional procedures necessary for Phase I Early Start-up. Identify issues with proposed well startup order.	Jim Ray / Jerry Sharp
8.	○	Conduct SIMOPS gap assessment and identify any early results based on installation sequence and existing SIMOPS plan (non-concurrent activities). Deliverables: SIMOPS gaps, and list of concurrent activities that are not allowed.	Allistair Warwich / Mike Mills / Geir Karlson

Task	Critical	Description	Task Leaders
		Proposed areas of restudy / new study.	
9.	●	Perform Preliminary Hazard Assessment by reviewing existing hazop entries and conducting high level hazid of split startup activities. Inputs should include past experience from DWP installations. Deliverables: Hazop Items that are in jeopardy of close-out as a result of the Phase I start-up plan and proposed mitigating action. New hazards and mitigating actions / processes necessary as a result of the Hazid.	Allistair Warwich
10.	○	Integrate subsea installation plan with topside delivery plan (including current scope), and Marti Gras flowbacks. Deliverables: System start-up flowchart	Mike Mills / John Mack
11.	○	Identify equipment turndown and/or operating constraints. Deliverables: Any incremental topsides turndown issues and operating limitations (e.g. max production rates through riser).	Jim Ray
12.	●	Perform gap assessment of marine and riser worthiness of PQ during production ops with only 3 risers installed, in 100 yr hurricane. Coordinate with Marti Gras on new neutral position and planned offsets. Deliverables: Confirmation that riser / mooring arrangement is within current design expectation, and any engineering studies that may be required if no firm conclusions are available.	Pat Kelly / Simon Webb / Mike Vandenbos sche
13.	○	Perform Preliminary Documentation Gap Assessment Deliverables: List of project documentation that may be impacted as a result of this change that is necessary to be available prior to Operations for start-up.	Mike Mills

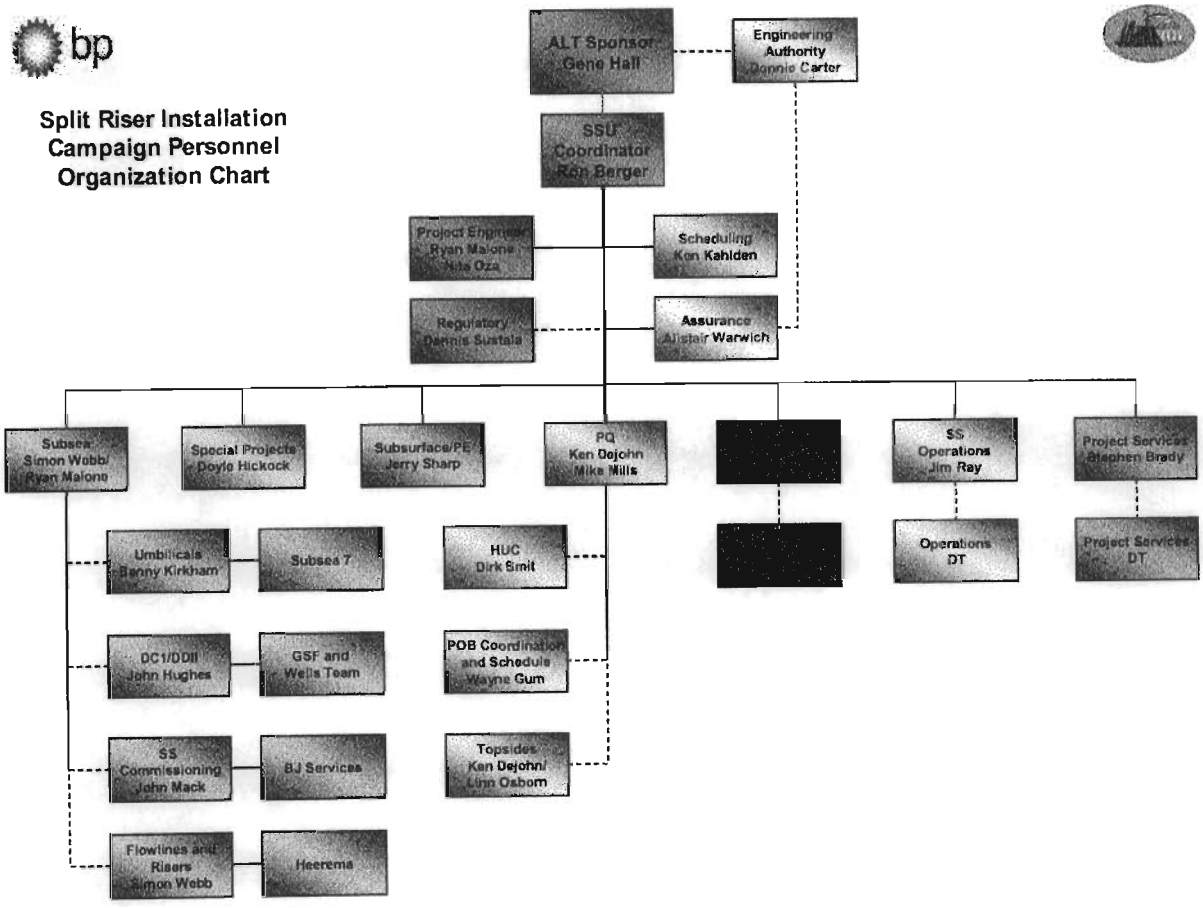
Task	Critical	Description	Task Leaders
14.	●	Develop Select Phase Early Start-up Schedule (high level) Deliverables: Develop schedule and production profile based on findings above which objective to show earliest possible start-up date.	Scheduler / R Berger
15.	●	Review staffing requirements Deliverables: Staffing that may be necessary for extended project including offshore on the PQ during HU. Identify additional temporary quarters that may be required.	Ryan Malone / Mike Mills
16.	○	Identify P1 installation impact Deliverables: Summary of any issues that the addition of the P1 installation or East / West rearrangement of the Phase I scope may create.	Conclusions drawn from results of other tasks
17.	●	Perform Economic Evaluation(s) Deliverables: Incremental compared to base case.	Dan Elmer
18.		SELECT Gate Review	ALT

Early Start-up Plan – DEFINE PHASE:

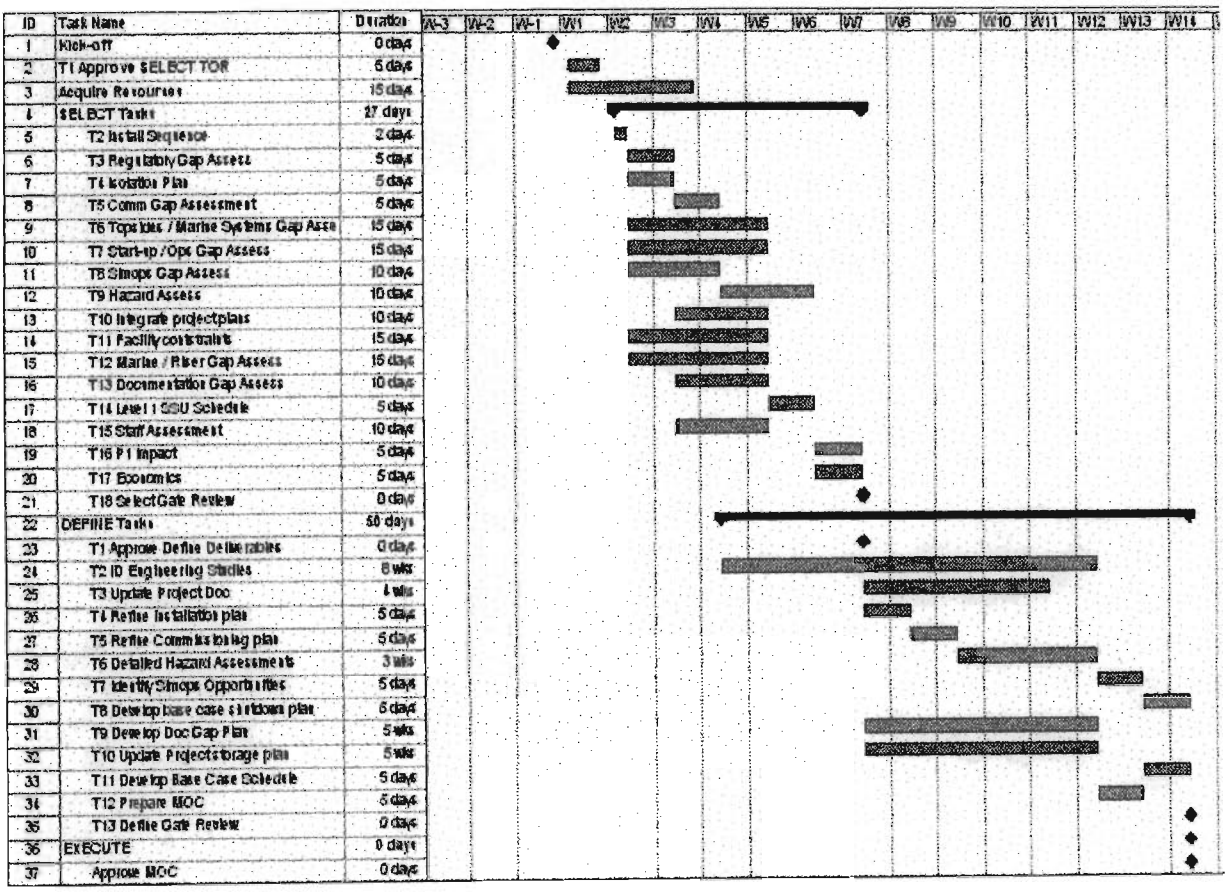
Task	Description	Resources
1.	Review and approve DEFINE Gate deliverables: • Updated Project Documentation (SOR, DBD, PEP) • Base Case Schedule • Assurance Steps required during Execute • Decision registers • Closure of major risks from Select • Preparation of MOC	ALT
2.	Perform engineering studies required out of SELECT. Run dynamic simulator with new production profiles.	Others
3.	Update SoR, DBD, PEP, Decision Registers, SIMOPS plan	SSU Coordinator / Project Controls, DDII and Ops Simops Lead
4.	Refine flowline and umbilical installation plan	FL Lead / Umb Lead
5.	Refine commissioning and tie-in plan	SS Comm / PQ Hook-up Lead / Topsides Lead / Operations Lead
6.	Perform additional detailed hazard assessments and mitigating actions as a result of the early startup and Phase II installation sequences. Additional Deliverables: Closure of Select Hazid entries, additional execute phase assurance steps	HSE Lead, Operations Lead
7.	Identify opportunities for simultaneous work (e.g. concurrent DDII ops, PQ hot-work, and Balder hand-off). Additional Deliverables: Simultaneous work opportunities and work plan	Prod Eng Lead / Ops Lead
8.	Refine base case shut-down plans and ramp-down, shutdown, and startup plans.	Ops Lead / PE / HSE Lead
9.	Develop Documentation Gap Mitigation Plan, System Handover to Operations plan	Topsides Lead / SS Eng Lead / Doc Manager / Ops Lead
10.	Review project equipment storage and maintenance plan for extended project and develop Execute plan to ensure	SS Lead / HU Lead

Task	Description	Resources
	proper equipment condition when required for use.	
11.	Develop Project Base Case Schedule and integrated onshore and offshore staffing plan.	Project Controls Lead
12.	Prepare MOC	Project Engineer
13.	DEFINE GATE Review	ALT

Organization



Schedule



ID	Task Name	Duration
1	Kick-off	0 days
2	T1 Approve SELECT TOR	5 days
3	Acquire Resources	15 days
4	SELECT Tasks	27 days
5	T2 Install Sequence	2 days
6	T3 Regulatory Gap Assess	5 days
7	T4 Isolation Plan	5 days
8	T5 Comm Gap Assessment	5 days
9	T6 Topsides / Marine Systems Gap Asse	15 days
10	T7 Start-up / Ops Gap Assess	15 days
11	T8 Simops Gap Assess	10 days
12	T9 Hazard Assess	10 days
13	T10 Integrate projectplans	10 days
14	T11 Facility constraints	15 days
15	T12 Marine / Riser Gap Assess	15 days
16	T13 Documentation Gap Assess	10 days
17	T14 Level 1 SDU Schedule	5 days
18	T15 Staff Assessment	10 days
19	T16 P1 Impact	5 days
20	T17 Economics	5 days
21	T18 Select Gate Review	0 days
22	DEFINE Tasks	50 days
23	T1 Approve Define Deliverables	0 days
24	T2 ID Engineering Studies	8 wks
25	T3 Update Project Doc	4 wks
26	T4 Refine Installation plan	5 days
27	T5 Refine Commissioning plan	5 days
28	T6 Detailed Hazard Assessments	3 wks
29	T7 Identify Simops Opportunities	5 days
30	T8 Develop base case shutdown plan	5 days
31	T9 Develop Doc Gap Plan	5 wks
32	T10 Update Project storage plan	5 wks
33	T11 Develop Base Case Schedule	5 days
34	T12 Prepare MOC	5 days
35	T13 Define Gate Review	0 days
36	EXECUTE	0 days
37	Approve MOC	0 days

ATTACHMENT 12

Prelay

1.0 The aim of the prelay options is to capitalize on vessel opportunities in lieu of delivery of the PQ on site. Prelay shall be carried out in accordance with normal laying operations and requirements.

The following Drawings Nos: shows the options for the prelay operations:

1440-34-PL-DG-0201-001 Flowline T Prelay (Option A)

1440-34-PL-DG-0201-002 Flowline T Prelay (Option B)

1440-34-PL-DG-0201-003 Flowline P Prelay (Option A)

1440-34-PL-DG-0201-004 Flowline P Prelay (Option B)

1440-34-PL-DG-0201-005 Flowline P1 Prelay

1440-34-PL-DG-0201-006 Flowline P2 Prelay

1440-34-PL-DG-0201-006 Flowline P3 Prelay

2.0 Water Injection Prelay

The water injection line has been prelaid and awaiting to be hooked up to the PQ on site.

3.0 Other Prelay

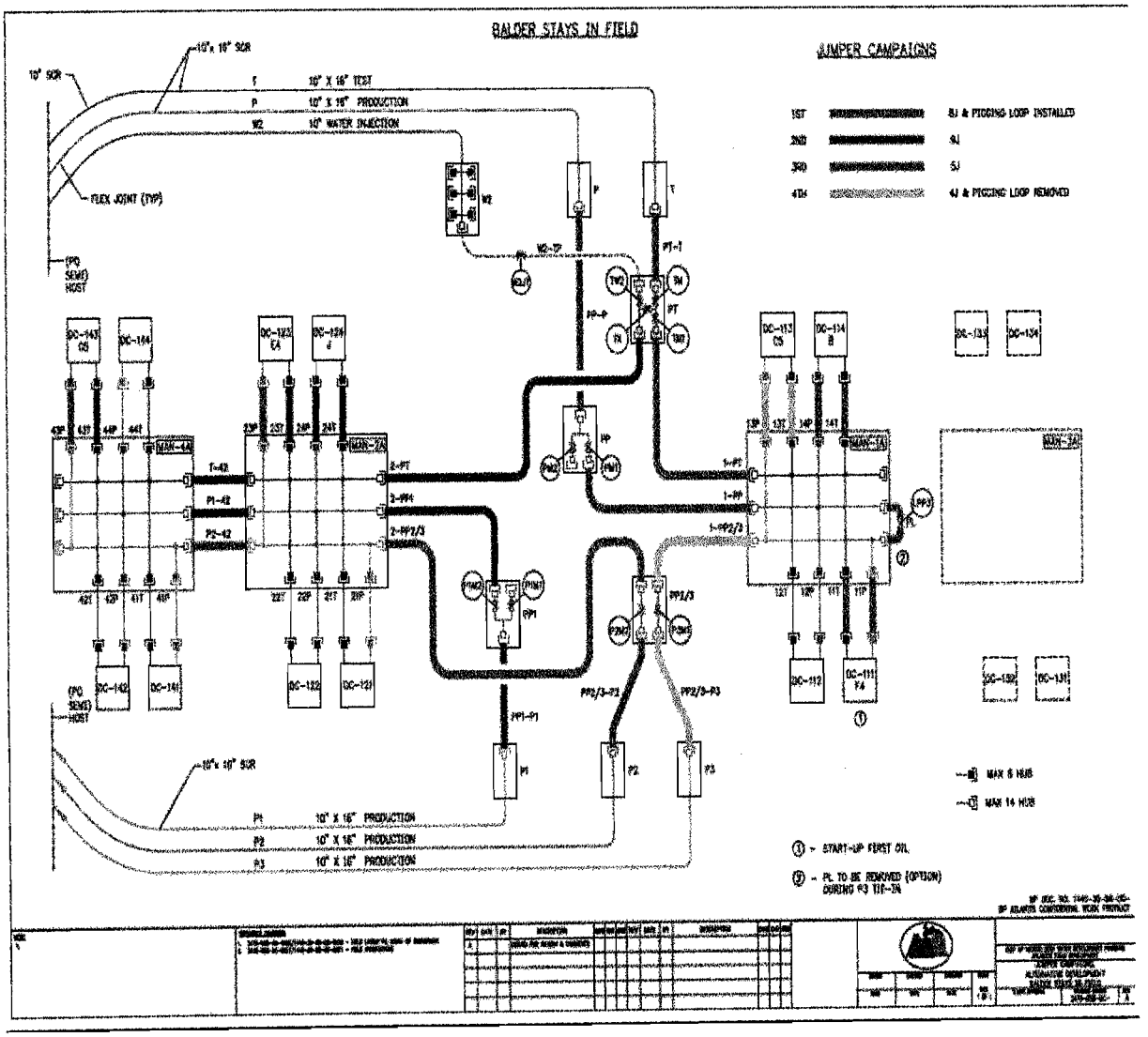
The options for prelaying the other lines have been laid out and referenced above. The options can be exercise based on what is expedient at the current moment. Prelay should not be any extra ordinary from the normal operations. The options, if exercised, will be decided by the Atlantis Leadership Team.

ATTACHMENT 13

Subsea Systems Phase 1 (SS1)

1.0 The purpose of attachment 13 is to the document the activities involved in the execution of the Atlantis SS1 to ensure adherence and conformance to the strategies as defined in the overall Atlantis project execution plan (PEP). The SS1 philosophy shall be documented in the PEP to provide direction for the development of specific tasks, process requirements and approvals and buy-ins from the various Atlantis project teams. This prime objective is to ensure that a well coordinated plan among the major project teams and sub-contractors, including the Floating Systems, Wells and Operations Team's for a successful execution of the SS1 campaign. Fig 13-1 shows the schematic for the SS1 subsea architecture.

Fig 13-1
Schematic of Fully Integrated SS1



BP ATLANTIS
CONFIDENTIAL WORK PRODUCT

2.0 Scope of SS1

The scope associated with implementation of SS1 includes elimination of all 8630/625 buttered welds in the subsea architecture with exception of the water injection line. The existing PLET structures shall be used for the fabrication of 5 new simple valve-less PLETs to meet prelay and mainlay schedules. In addition, 4 new PLEMs with various 9" gate valve configurations shall be built to meet start up and enhance operability. Eventually, 4 permanent manifolds shall be built at DC 1 and installed in phases. The new design for the SS1 manifolds will utilize the existing manifolds frame and sub-components.

An MOC shall be issued for implementation of the SS1 and shall be managed according to the execution plans within the overall Atlantis PEP.

3.0 Health Safety Environment (HSE)

HSE requirements for the SS1 shall conform to the overall PEP. No exceptions for HSE requirements have been identified for work carried out in association with SS1 plans.

4.0 Design Considerations

Design of the SS1 manifolds shall take into consideration the base case DC1 configuration in relation to the subsea architecture spatial layout to leverage the design of current jumper configurations. External coating and HWHR as well as CP systems shall be compatible to DC 1 design.

Materials required for SS1 shall be re-allocated from Atlantis North Flank (DC 3), if required, and components from the retrieved manifolds that include the hubs, valves, connectors. These shall be used to fabricate the new alternative manifold in the SS1 design.

The SS1 design is aimed at meeting 1st oil schedule and optimized to assure maximum offshore service life through integrity management of the SS1 components, especially in the area of minimizing corrosion during production. The current targeted minimum offshore service design life required for the SS1 components is 36 months.

The SS1 manifolds, new designed PLEMs and PLETs design features shall be documented in a supplemental section in the Atlantis Subsea Design Basis Document Execute Phase. BP Doc # 1440 – 30 – SB – DC- 0033. (Technip Doc # 3478 – BSB – RA – 0001). In addition, design and Peer reviews shall be conducted to address issues that might arise in implementing the SS1.

5.0 Contractors

The contractors for SS1 execution phase pertaining to the supply of the SS1 subsea components are listed in the table below. Installation, commissioning and hook up plans have not deviated from the original Atlantis PEP found in Section 9.0

Table 5.1-1 Contractors Responsibilities for Supply of SS1 equipment

Contractor / Subcontractor	Workscope Description
Technip Offshore, Inc. The major technical support to BP has been provided by Technip under the terms of a Frame Agreement (Well System Integration and Design Engineering Services Contract, No. BPA-00-01772) established in January, 2001. The scope of work specified in that contract includes:	As defined in Table 3.3-1 of this PEP Detailed design and engineering for the SS1 manifolds, PLEMs and PLETs
FMC Corporation	Remediate the 9" valves and connectors Engineering support to OSI (SVI) and RTI,
Omega Engineering	Fabricate the PLEMs and the PLETs
RTI	Re-fabrication of hub, hub supports and manifolds. Re-machine the hubs
Allison Marine	Remediate and fabricate jumpers Base for load out and staging area
OSI (SVI)	Re-engineer and fabricate the SS1 manifolds

6.0 Construction

Construction plans for the SS1 shall conform to the current statements found in Section 9 of this PEP. Any exceptions to the construction plan shall be reviewed and authorized by the SS1 execution team, in collaboration with the Atlantis teams. The SS1 execution team will continue with scrutinizing interface issues and fully understand the design implications and impacts with a view to lock in the SS1 design for the path forward.

7.0 Testing

SS1 components testing requirements shall be defined in the respective functional specifications. The minimum requirements are shell test for the Manifolds, PLEMs and PLETs to the stipulated test pressure of 9,750 psi. In addition, CP continuity test, HWHR system test and an external pressure test for the pressure caps will be conducted.

E-mail 36 of 61

Unknown

From: Kenneth Abbott [kwabbott@comcast.net]
Sent: Sunday, March 01, 2009 9:17 PM
To: 'applications@bp-oil.co.uk'
Subject: RE: British Petroleum Oil & Gas Recruitment Campaign
Attachments: 1ikenresumejccons8petr.doc; 1kensresumecoverletter.doc

I have attached my resume as per your request. I am no longer with BP in Houston GOM E&P. I was a contractor, and would be interested in a permanent position here.

From: applications@bp-oil.co.uk [mailto:applications@bp-oil.co.uk]
Sent: Sunday, March 01, 2009 5:31 PM
To: kwabbott@comcast.net
Subject: British Petroleum Oil & Gas Recruitment Campaign

Good Day,

BP PLC, also known as British Petroleum, is the third largest global energy company, a multinational oil company with headquarters in London. We are among the largest private sector energy corporations in the world, and one of the six "supermajors" (vertically integrated private sector oil exploration, natural gas, and petroleum product marketing companies).We are listed on the London Stock Exchange and is a constituent of the FTSE 100 Index.

BP PLC is the employer of choice for more than 96,000 people. Here are just a few of the reasons why;

Different people, common goals – that sums up our group. All over the world we look for people who share our ambition to be competitive, successful and a force for good.

We are committed to equality and diversity and we welcome applications from people who meet our selection criteria, regardless of sex, race or disability.

The idea of being 'a force for good' underlines all our activities worldwide. So the way we work is guided by values – integrity, honest dealing, treating everyone with respect and dignity, striving for mutual advantage, transparency and contributing to human progress.
And these values are more than just words: they are enshrined in practical policies and standards that govern areas of our activity, including health, safety, security, environment, ethical conduct and business relationships.

From time to time we run recruitment campaigns targeting specific job categories or areas of our business.Here's a list of our current campaigns:

Alternative energy
Commercial
Customer services
Exploration & Production
IT jobs in trading
Offshore technicans
Procurement / Supply chain
Refineries
Refining: New technology

Shipping and maritime services
Trading and supply

Pay DOE. Benefits available. If interested please Send your Resume/CV for more information.

Sincerely,

Sally T Bott
Group Human Resources Director
BP P.L.C.
International Headquarters
1 St James's Square
London, SW1Y 4PD
UK
Fax: +44 (0)7006-074-150

DISCLAIMER:

Any views of this e-mail are those of the sender except where the sender specifically states them to be that of BP plc or its subsidiaries.The message and its attachments are for designated recipient(s) only and may contain privileged, proprietary and private information. If you have received it in error, kindly delete it and notify the sender immediately.BP plc accepts no liability for any loss or damage resulting directly and indirectly from the transmission of this e-mail message.

KENNETH W. ABBOTT SR.

9726 Refugio Court
Houston, Texas 77064
Home Phone: 281-897-9676
Cell Phone: 832-266-8052
Email: kwabbott@comcast.net

BACKGROUND SUMMARY

Management professional with twenty five years of progressive and diversified experience in the oil and gas upstream and downstream engineering, procurement, and construction, and engineered equipment fabrication industries. Solid record of accomplishment in project controls and project management. I am currently seeking to grow my career with a senior controls management position with an owner or EPC company.

Successful in the development and application of project controls procedures and in the documentation of work flow processes in several different industries. Developed and implemented capital project planning/cost control processes in these industries, which became standard practice and resulted in significant schedule/cost improvements. Authored project controls, productivity and quality improvement, and construction articles for ten different international trade magazines. Completed a certification in marketing program at the University of Houston in 2000, and obtained my Gartner Certification in Project Management in 2001. Also completed a Masters of Science degree at Southern Methodist University in May 2002.

PROFESSIONAL EXPERIENCE

British Petroleum
2008 to 2009

Senior Project Controls Manager

Supervise Project Controls staff on for Offshore Oil and Gas Exploration and Production projects. Prepare plans and monitor performance for development of wells and deployment of production facilities. Analyze performance and report progress to senior BP and other partners. Develop and implement project management and project controls tools and processes. Direct and monitor subcontractor performance.

GE Energy
2007 to 2008

Manager – Project Controls – IGCC Gasification Projects

Overall responsibility for the planning and project schedule/cost control for mega power/process projects in the energy division of General Electric. Also engaged in the development of controls procedures for a new IGCC group within GE. Current project is a $2.5 billion gasification/power grass roots project in the US.

CDI ENGINEERING
2005 to 2007

Senior Project Controls Manager – CDI/DuPont Alliance

Responsible for the project controls work of 20 staff including schedulers, cost engineers, and estimators for the CDI DuPont southern region engineering center. Currently this includes the planning and project control of over 65 projects in the southern US. Also responsible for development, testing, and deployment of new project control techniques.

JACOBS ENGINEERING
2003 to 2005

Sr. Project Cost Controls Manager

Plan and analyze petrochemical and refinery project cost performance, and report progress to upper management and the client. Identify cost and schedule problems and help implement timely solutions.

SHELL OIL
1997 to 2003

Project Manager
Project Controls Manager

Served as a project controls manager for upstream offshore and downstream oil and gas and petrochemical projects for Shell Oil throughout the US. Worked with engineering staff to identify workflow and to develop standard project plans based on this workflow. Established standard project reporting tools and formats for progress reporting to management.

BROWN & ROOT
1995 to 1996

Business Development Manager
Project Controls Manager

Responsible for all marketing and business development efforts in the PCS/Cellular engineering and construction markets. Project Controls Management for engineering/construction of petrochemical and civil projects.

STONE & WEBSTER
1992 to 1995

Director - Project Planning Department
Project Controls Manager

Responsible for the supervision of planning staff and overall quality of planning effort on all worldwide petrochemical/power/telecommunications EPC projects. Assisted in the development of several project control improvement projects, including the implementation of a better company standard work breakdown structure and a construction driven project control approach for quicker identification and resolution of project schedule problems.

Chosen for a leadership role in successful effort to obtain ISO 9001 Quality Certification. As part of this effort, worked with the various engineering, procurement, and construction department staff to establish standard work flow processes for completion of the various EPC project tasks, and also developed standard unit quantity manpower requirements for each task.

Participated in the successful proposal preparation with AT&T on a joint venture telecommunications project overseas that was the largest ever telecommunications system expansion.

GTE MOBILNET, INC.
1986 to 1992

Sr. Project Manager
Product Manager
Project Controls Manager

Planned and administered all new cellular telecommunication system (mobile phone) expansions in the U.S. Coordinated site acquisition, engineering, procurement, and construction of over 300 new cellular radio transmission sites and computer-controlled switches since 1986. Established company project scheduling and cost control documents and procedures, updated project status, identified and analyzed project problems, and worked with other functions to resolve them. Analyzed and reported work order cost/schedule performance for all U. S. regional operations to upper management. Served as the coordinator between marketing and network divisions to help translate market needs into network coverage. Also functioned as a product manager over all credit card and rental phone product development and distribution activity.

Developed and implemented a "company standard" new market entry pert chart for the design, installation, and marketing of new cellular systems. Since the deployment of cellular systems was new technology at the time, there were no existing standard pert

charts showing the interrelationships of the project workflow. I interviewed and worked with the individual project team members and each department to identify and establish the standard workflow for completing a cellular system from design to installation and operation. After we established this standard deployment plan, we were able to fine-tune it to continuously improve our project productivity and cost, and to shorten the required project duration. I received a GTE employee excellence award for this effort, and later published an article in Cellular Business Magazine on how we used this process to improve our deployment of wireless systems.

Participated in the development and implementation of a work order process and written procedures for GTE Mobilnet.

Introduced new PC based program management system, which resulted in improved schedule and cost performance.

Initiated a program to expand the project control features of the existing Capital Project Management System. The results provided both headquarters and field management with improved schedule and cost tracking and reporting capabilities. I also received a GTE Employee Award for this effort.

PLT ENGINEERING
1985 to 1986

Project Controls Manager

Responsible for all project control functions, including cost and scheduling for assigned pipeline and facility projects. I planned all engineering, procurement, and construction activities and served as the client contact at meetings concerning cost and schedule performance.

Established an engineering quantity measurement and project planning system on the IBM-PC for more accurate reporting of engineering progress on projects.

M. W. KELLOGG COMPANY
1978 to 1985

Division Manager - Construction Planning
Project Controls Manager
Proposals Manager

Supervised all home office and field project control personnel assigned to my projects. Coordinated and administered the scheduling and cost control activity on all Kellogg petrochemical construction projects, including the development and statusing of all project control documents, with responsibility for insuring timeliness and quality. Planned and controlled the engineering, procurement, and construction of projects ranging in value from $30 million to $1.5 billion.

Developed and implemented a state-of-the-art project control system based on the IBM Personal Computer, which provided Kellogg with a lower cost, easier-to-use alternative to mainframe control systems. Established a marketing plan to increase sales and penetrate into new market areas.

Developed a standardized jobsite schedule and cost-reporting format, which improved the quality of field reporting. I have participated in the development of many standard Kellogg project planning and progress reporting tools and procedures and regularly taught new field engineers how to use these tools.

Acted as a troubleshooter for construction management by analyzing problem jobs throughout the world and recommending solutions. Results were improved project completion dates and lower costs.

EDUCATION

B.S. in Economics, Minor in Math - University of Houston
M.S. in Telecommunications from the electrical engineering department of SMU in Dallas
Management Growth Workshop - University of Houston Management Center
Dyna Cellular Radio Overview, sponsored by GTE Mobilnet
Dale Carnegie Course in Effective Speaking and Human Relations
GTE Supervisory Training Course
Deming Productivity and Quality Improvement Seminar
Marketing Certification based on course work at the University of Houston

ACADEMIC HONORS

Deans List; President of Phi Theta Kappa National Honor Fraternity; Member National Economics Honor Fraternity; Who's Who in American Colleges

PROFESSIONAL AFFILIATIONS

Member, Project Management Institute and Houston Writers Guild
Regional Correspondent for several business magazines
Gartner Certified IT Project Manager

AWARDS

Who's Who In The South and Southwest
Several Job Quality Awards from M. W. Kellogg and GTE Mobilnet
Employee Excellence Award from Shell Oil

Dear Sir:

I am interested in the project control position listed on the internet for your company. I believe that my 25 years of experience on both the owner side (BP, GE, Shell Oil, and GTE) and the contractor side (Jacobs, Kellogg Brown and Root, and Stone & Webster) will enable me to contribute to the success of your project control efforts.

In addition to my experience as a manager of project control groups for both owners and contractors, I am experienced as both a cost engineer and scheduler for major petrochemical projects ranging form 50 million to 1 billion dollars. I also have a unique understanding of the mechanical components that make up a petrochemical plant, since I have planned the work for, and served as a client rep for major fabrication shops such as Cooper Bessemer and Belmas.

I am experienced in the use of the latest project controls tools such as primavera, access, excel, ms project, and SAP. I have also written articles for ten different international trade magazines on the 'how to" of project controls.

I would appreciate the opportunity to discuss a position with you. Thanks for your consideration.

Exhibit “D” to Declaration of David L. Perry (Part 2 of 2)

E

E-mail 37 of 61

Unknown

From: Kenneth Abbott [kwabbott@comcast.net]
Sent: Sunday, March 01, 2009 9:25 PM
To: 'pasha.eatedali@ombudsmanecp.com'
Subject: FW: British Petroleum Oil & Gas Recruitment Campaign

Pasha – here is a recent email from BP HR further confirming that reduction in staff was not the real reason for my termination. The real reason was retaliation against me alone. The email shows that in my ex-group - Exploration and Production – they are in fact conducting recruiting campaigns...

From: applications@bp-oil.co.uk [mailto:applications@bp-oil.co.uk]
Sent: Sunday, March 01, 2009 5:31 PM
To: kwabbott@comcast.net
Subject: British Petroleum Oil & Gas Recruitment Campaign

Good Day,

BP PLC, also known as British Petroleum, is the third largest global energy company, a multinational oil company with headquarters in London. We are among the largest private sector energy corporations in the world, and one of the six "supermajors" (vertically integrated private sector oil exploration, natural gas, and petroleum product marketing companies).We are listed on the London Stock Exchange and is a constituent of the FTSE 100 Index.

BP PLC is the employer of choice for more than 96,000 people. Here are just a few of the reasons why;

Different people, common goals – that sums up our group. All over the world we look for people who share our ambition to be competitive, successful and a force for good.

We are committed to equality and diversity and we welcome applications from people who meet our selection criteria, regardless of sex, race or disability.

The idea of being 'a force for good' underlines all our activities worldwide. So the way we work is guided by values – integrity, honest dealing, treating everyone with respect and dignity, striving for mutual advantage, transparency and contributing to human progress.
And these values are more than just words: they are enshrined in practical policies and standards that govern areas of our activity, including health, safety, security, environment, ethical conduct and business relationships.

From time to time we run recruitment campaigns targeting specific job categories or areas of our business.Here's a list of our current campaigns:

Alternative energy
Commercial
Customer services
Exploration & Production
IT jobs in trading
Offshore technicans
Procurement / Supply chain
Refineries
Refining: New technology
Shipping and maritime services

Trading and supply

Pay DOE. Benefits available. If interested please Send your Resume/CV for more information.

Sincerely,

Sally T Bott
Group Human Resources Director
BP P.L.C.
International Headquarters
1 St James's Square
London, SW1Y 4PD
UK
Fax: +44 (0)7006-074-150

DISCLAIMER:

Any views of this e-mail are those of the sender except where the sender specifically states them to be that of BP plc or its subsidiaries.The message and its attachments are for designated recipient(s) only and may contain privileged, proprietary and private information. If you have received it in error, kindly delete it and notify the sender immediately.BP plc accepts no liability for any loss or damage resulting directly and indirectly from the transmission of this e-mail message.

E-mail 38 of 61

Unknown

From: Kenneth Abbott [kwabbott@comcast.net]

Sent: Sunday, March 01, 2009 9:38 PM

To: 'Pasha Eatedali'

Subject: RE: Additional Information for your investigation

Pasha – Thanks for the response on this. I do think however, that as part of this investigation, it is important to the person who has been discriminated and harassed by Clark (Becky Cavalier) and to me, (since I have been retaliated against by him), to know that BP has completed an investigation of his illegal actions against us. If he is still with the company in any capacity, then BP is obligated to admit it, to complete an investigation of his actions, and report the results to me and take the proper action against him. If he is not with the company, it is still critical to investigate his actions and report the findings to the complaining employee.

From: Pasha Eatedali [mailto:pasha.eatedali@ombudsmanecp.com]
Sent: Wednesday, February 25, 2009 3:13 PM
To: Kenneth Abbott
Subject: RE: Additional Information for your investigation

Thanks Ken.

As for the report, it is our protocol not to provide copies of the final investigation report. Rather, we provide the Concerned Individual an oral debrief of the results of the investigation.

As for the documentation that is gathered during the investigation, it is our protocol not to share that evidence with anyone. Most information is provided to us as a result of our policy to maintain confidentiality of both the source and substance of the material. The emails and your BP Personnel File (which I have not seen) can be requested through BP directly. Any emails to or from Clover can also be requested from them.

As for Alan Clark's job status: all I know is that he is no longer part of the Atlantis project and never returned after your meeting with him.

I apologize that I can not be more of a help, but I must adhere to the policies and protocol of the Office of the Ombudsman.

Best Regards,

Pasha Eatedali
Office of The Ombudsman
1300 Eye Street, NW
Suite 900
Washington, DC 20005
Phone: 202-682-7262
Email: pasha.eatedali@ombudsmanecp.com

The information contained in this

email message is intended only for use of the individual or entity named above. If the reader of this message is not the intended recipient, or the employee or agent responsible to deliver it to the intended recipient, you are hereby notified that any dissemination, distribution or copying of this communication is strictly prohibited. If you have received this communication in error, please immediately notify us by email and destroy the original message. Thank you.

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Wednesday, February 25, 2009 2:38 PM
To: Pasha Eatedali
Subject: RE: Additional Information for your investigation

Pasha – As per your request, I will delay any further action until next Tuesday (3/4/09).

When your investigation is done, I would like a complete copy of your report. Also - can you send me now a copy of Alan Clark's email to John Schwebel with his allegations. I also would like a copy of the email from Clover which they sent to Bill Naseman (Naseman told me he had requested a letter from them regarding Clark's departure.) I asked for but never received either of these emails from Naseman. Note that if you talk to the Clover agency (their HR and BP rep), they can verify that I did talk to them on 12/24/08 to ask them to find out when Clark was going to return to work, and to tell them that Clark had not been fired.

Also, I would like to request a copy of anything in my BP employee file.

Have you verified if Alan Clark has left the company? There is still an Alan Clark employed at the BP office in Aberdeen, Scotland (his homeland is Scotland).

From: Pasha Eatedali [mailto:pasha.eatedali@ombudsmanecp.com]
Sent: Monday, February 23, 2009 9:05 AM
To: Kenneth Abbott
Subject: RE: Additional Information for your investigation

Ken,

Hope you had a great weekend. I have a few more interviews before my investigation is complete. I was hoping to delay till next Tuesday. It is possible the Judge's review of the matter will lengthen the time needed. So I ask that you bear with me. I appreciate your patience.

Best Regards,

Pasha Eatedali
Office of The Ombudsman
1300 Eye Street, NW
Suite 900
Washington, DC 20005
Phone: 202-682-7262
Email: pasha.eatedali@ombudsmanecp.com

The information contained in this
email message is intended only for use of the individual or entity
named above. If the reader of this message is not the intended
recipient, or the employee or agent responsible to deliver it to
the intended recipient, you are hereby notified that any
dissemination, distribution or copying of this communication is
strictly prohibited. If you have received this communication in
error, please immediately notify us by email
and destroy the original message. Thank you.

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Thursday, February 19, 2009 6:02 PM
To: Pasha Eatedali
Subject: RE: Additional Information for your investigation

Thanks for looking into this Pasha – yes I will delay any further action until next Friday to allow you to complete your internal investigation. Is that okay?

From: Pasha Eatedali [mailto:pasha.eatedali@ombudsmanecp.com]
Sent: Wednesday, February 18, 2009 11:50 AM
To: Kenneth Abbott
Subject: RE: Additional Information for your investigation

Ken,

Thanks for the information. I've been steadily conducting interviews for this investigation. I am looking to conduct some more. I'd ask that you extend your Feb. 20 deadline. Gathering the facts are my most important objective, which will require more time.

Best Regards,

Pasha Eatedali
Office of The Ombudsman
1300 Eye Street, NW
Suite 900
Washington, DC 20005
Phone: 202-682-7262
Email: pasha.eatedali@ombudsmanecp.com

The information contained in this
email message is intended only for use of the individual or entity
named above. If the reader of this message is not the intended
recipient, or the employee or agent responsible to deliver it to
the intended recipient, you are hereby notified that any
dissemination, distribution or copying of this communication is
strictly prohibited. If you have received this communication in
error, please immediately notify us by email
and destroy the original message. Thank you.

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Wednesday, February 18, 2009 11:36 AM
To: Pasha Eatedali
Subject: Additional Information for your investigation

Pasha – I have some more information for you to consider in your investigation of my employment complaint.

1. During my meeting with Bill Naseman on 1/12/09, he stated that Becky Cavalier had very limited potential as an employee. He said she was only capable of simple clerical work. I thought this was discriminatory and incorrect, and told him that her performance in her job to date was excellent, and she seemed to have very good potential, and the ability to handle any assignment I gave her. He was very negative about her in his statements to me and the others in the meeting (Sim Powell and Eddie Antoine). The cost engineer that Becky works with (Doug McGregor) has had nothing but praise for her efforts, and so have the other cost engineers on my team. I believe that Naseman's discriminatory feelings and statements toward Becky was part of the reason he wrongfully terminated me for trying to protect her from sex and age discrimination and harassment by Alan Clark.

2. Bill Naseman, Neil Shaw, (the VP of the GOM), and Simon Todd, (VP of the Atlantis Project) have made very direct public commitments to BP and contractor staff of BP's intent to not lay off anyone in the GOM or Atlantis in 2009 and to indeed hire 200 new staff. Despite these commitments, to the best of my knowledge, I am the only person in the Atlantis project in Houston to be singled out for discharge. Also, in the chronology of events you emailed me, BP's Bill Naseman states that on **January 29-30, 2009** that Bill Naseman, Bill Broman (Atlantis Subsea Delivery Manager), Dirk Smit (Atlantis Phase 2 Delivery Manager), and Simon Todd (VP Atlantis) discussed whether the company could reduce costs by combining two Project Services Lead into one BP PSL position held by Simm Powell (who had just replaced the other Project Services Lead – Mike Mills (contractor). The fact is that Mike Mills is still employed by BP.

E-mail 39 of 61

Unknown

From: Kenneth Abbott [kwabbott@comcast.net]
Sent: Tuesday, March 03, 2009 3:56 PM
To: kwabbott@comcast.net
Subject: FW: Atlantis Document Control Proposal - Path Forward
Attachments: Sector 31 - Wellheads - J.Hughes.xls; Sector 32 - Trees - R. Weber.ZIP; Sector 33 - Manifolds - J. Schwebel.ZIP; Sector 34 - Pipelines - J.Mack.ZIP; Sector 35 - Controls- D. Whitehead.ZIP; Sector 36 - Umbilical - B. Kirkham.ZIP; Sector 37 - Risers - J. Mack .ZIP; Sector 70 - Installation- J. Hughes.ZIP

From: Abbott, Ken (SWIFT TECHNICAL SERVICES)
Sent: Wednesday, November 19, 2008 3:15 PM
To: Broman, William H(HOU); Garland, Mike L; Curtis, Tinikka (NES); Naseman, Bill E
Subject: Atlantis Document Control Proposal - Path Forward

Bill - we made some revisions to the proposed process for correcting documentum. Please review and transmit to the leads for implementation as per our discussion...

From: Abbott, Ken (SWIFT TECHNICAL SERVICES)

Sent: Tuesday, November 18, 2008 5:16 PM

To: Broman, William H(HOU)

Cc: Curtis, Tinikka (NES); Garland, Mike L

Subject: FW: Rough Draft -Document Control Proposal

Bill - here is our go-forward Documentum QA plan as discussed at our meeting with Bill Naseman and Westlake Document control. Please review it and issue it to the leads as our plan to complete the needed quality control check on drawings issued and to ensure that we can identify and provide as built drawings as needed from documentum for each drill center.

From: Curtis, Tinikka (NES)

Sent: Tuesday, November 18, 2008 4:12 PM

To: Abbott, Ken (SWIFT TECHNICAL SERVICES)

Subject: FW: Rough Draft -Document Control Proposal

Attention Atlantis Leads: We are in the process of close-out for the DC-1 original scope project costs and the issue of all final documentum drawings to the operations group for these working assets. It is critical for these drawings that we QC them, get final as-built drawings by drill center, and transmit to operations quickly.

As we all know, there have been issues with non-compliance with project drawing numbering and tracking procedures, and the status of drawings by drill center is also not complete. We intend to remedy these problems and bring the DC-1 drawings to a proper close-out by the end of January 09, and issue as-built drawings to operations at the same time. To do so, we need your help. At the same time, it is our intent to get the DC3, Water Injection, and SS2 documentum tracking and document issue back in sync with current drawing control procedures.

We have reviewed the below plan will Bill Broman and the Westlake Document Control team, and we have their support. **This effort will require a dedicated resource from each of your teams to review and correct the spreadsheets (Tinikka has attached the spreadsheet below by lead and sector) showing the documents under your control (correcting the drill center #, rev #, rev status, etc.) during the next few weeks (scheduled completion date is 01/09/09).** Once we have the drawing data correct in Documentum, we plan to then issue documentum drawing schedules with required as-built drawing need dates for closeout for all documents for monthly status updating by the schedulers and leads.

Schedule for Documentum updates/corrections

11/24/08 - Tinikka Distributes Drawing Index to Leads, and begins meeting with Leads to explain input required as well as to help work sample corrections

01/09/09 - Leads Complete mark-up of Document Index with corrections and drill center # as required

02/06/09 - All corrections and drill center # attributes loaded into Documentum

02/13/08 - Summary drawing schedule to leads showing current drawing revision status and required issue date for all as-built drawings

02/27/09 - Final as-built drawings to Tinikka for all DC-1 drawings for issue to operations

Supporting Facts

Today most documents that come to BP document control comes from Technip document control in the subsea drop box in Documentum. Once the documents are QC, we find several issues with the documentation that need to be resolved before loading into Documentum.

Problem

Many of the documents in Documentum are incorrectly numbered, titled, and wrongly identified drill centers. This creates a problem for retrieval and the ability to handover accurate documentation to Operations.

Recommendation

BP Document Control will provide a spreadsheet for each lead with documents broken down by Sector.

A Document Status kick-off meeting will be scheduled with each of the Leads and/or Dedicated Representatives from each group for every document on the list to be reviewed and distinguish if

the following attributes are correct. If they are incorrect, the leads will need to mark them up on the spreadsheet with the correction for Tinikka to input into Documentum:

- Sector
- Discipline
- Document Type
    - Area – Drill Center
    - Revision
    - Rev Purpose Code - Status
    - Archival or Handover

Tinikka will work for a half-day with each lead to show them what drawing fields on the list must be updated and to go through examples with them. The leads will then need to complete the mark-up of their individual spreadsheets and return to Tinikka for input into Documentum by 01/09/09.

BP Document Control will begin to record the following attributes for more search capabilities.

- Originator/ Contractor Firm
- Transmittal number
- Contractor Document Number
- Status Code

Process

1. The Lead will receive the spreadsheet by **SECTOR.**

The first attributes to be reviewed are the Sector, Discipline, and Document Type. They need to be reviewed for accuracy and corrected. These attributes have a lot of impact on how documents are filed in Documentum.

- Sector
- Discipline
- Document Type.

2. The next attribute to be identified is the **AREA - (drill center).**

The drill center will determine the next steps to take with the document.

It has been argued that the phases do not matter, however because we work in phases it is to our advantage to label the document by phase if it's relevant to the document for easier identification at handover.

Subsea All

- Documents that is common to all Drill Centers

    - There should not be very many of these documents, and most documents

should still have a specific sector other than 30.

- Most of these documents will stay with the project until the end of the

job.

Drill Center 1 – South Flank

DC-1

- **Documents that illustrate what is currently installed and planned to stay unless other circumstances occur.**
- **These documents are a priority because most of these documents reflect what's currently installed and operating and need to be handover to Operations.**

DC-1 (SS-0)

- Documents that illustrate Original design / equipment that was removed.
- All of these documents will probably be archived.

DC-1 (SS1)

- **Documents that illustrate what is currently installed but planned to be removed by another phase.**
- **These documents are also a priority because most of these documents reflect what's currently installed and operating and need to be handover to Operations.**
- **Some of these documents will be added to a cross-reference spreadsheet to ensure that they are superseded by the next phase documents and correctly numbered during the next phase.**

DC-1 (SS2)

- Documents that illustrate what will replace equipment that is currently installed
- These documents are still in review/comment status so any errors made can be corrected.

Drill Center 3 – North Flank

DC-3

- Documents that are assigned to Atlantis North Flank (ANF)

Base Case.

- These documents are still in review/comment status so any errors

made can be corrected.

DC-3 (Phase I)

- Documents that is specific to ANF Phase I only.

- These documents are the next priority because some of these

documents reflect what is installed but not operating. These documents

is the second priority on the list to be handed over to Operations.

DC-3 (Phase II)

- Documents that are specific to ANF Phase II only.

- These documents are still in review/comment status so any errors

made can be corrected.

3. Now we can begin to check the **revision code** and **rev purpose code** *(status code)*.

4. In some cases the leads and/or Rep know if the documents are going to be **handover to Operations** or **archived deliverables.**

This step will allow us to prioritize correcting the handover documentation before the archival data.

<<...>> <<...>> <<...>> <<...>> <<...>> <<...>> <<...>> <<...>>

Pursuant to the Declaration of David L. Perry, Paragraph 7, the files attached to the preceding e-mail were not printed.

.xls Attachment Titles (some within ZIP files):

Sector 31 – Wellheads – J.Hughes
Sector 32 – Trees – R Weber
Sector 33 – Manifolds – J Schwebel
Sector 34 – Pipelines – J Mack
Sector 35 – Controls – D Whitehead
Sector 36 – Umbilical – B Kirkham
Sector 37 – Risers – J Mack
Sector 70 – Installation-J Hughes

E-mail 40 of 61

Unknown

From: Kenneth Abbott [kwabbott@comcast.net]
Sent: Wednesday, March 04, 2009 10:17 AM
To: kwabbott@comcast.net
Subject: FW: doc control 5
Attachments: Approval by the leads (1.00 MB); Atlantis Document Control Proposal - Path Forward (688 KB)

Pasha – I have attached below a further complaint against BP for your investigation:

As I have previously stated, I believe that Bill Naseman has retaliated against me with my wrongful termination primarily because I stood up for a female employee who was being discriminated against and harassed by Alan Clark. I also believe that a secondary reason for my termination was because of my blowing the whistle during November 08 through January 09 regarding unsafe practices in offshore production unit drawing correctness and completion in violation of US Code, Title 43, chapters 29 and 36, public policy, and BP procedures on the Atlantis project.

Specifically, during November 08, I advised Bill Naseman and the project manager Bill Broman, as well as the project team, both verbally and then by email (see attached email – atlantis document control proposal) that I and Tinika Curtis (Document Controller) had observed a failure by certain project lead engineers (John Schwebel, Benny Kirkham, and John Hughes) to ensure the proper coding of drawings they approved, (i.e. which sector did the particular equipment item belong to) and the failure to issue "as built drawings" to operations for the DC1 offshore production unit that had been complete and producing for a year. As shown in the email , the attachments show a record of the drawing status, and you can see in the revision status row, that many drawings are not issued as revision 0), or As Built, and most do not have "as built" stamped on them as required by GOM drawing procedures. It is critical that offshore operators have a complete set of as-built drawings when they start up a unit for their correct and safe assessment of operating problems on this unit. Yet even though the DC1 offshore wells had been operating since December 07, the operations group still did not have as-built drawings as of December 08. Tinika and I discussed this problem at length with the leads and project management and Bill Naseman. We prepared a plan to remedy this situation but it met much resistance and complaints from the above lead engineers on the project.

In particular, in Bill Broman's staff meeting on December 2, 2008 , John Hughes, Benny Kirkham, and John Schwebel questioned why the leads needed to check the drawings for correctness when they signed them off, and why did they need to push for final as-built drawings. They were very argumentative with me about this, and they also asked what procedure said they had to do these things. I responded that it was BP procedure as outlined in our Project Execution plan to do so and every oil company required their lead engineers to review drawings for accuracy and to obtain as-built final drawings from all vendors for operations before startup (see attached email - approval by the leads, which I sent them after the meeting on 12/17/08 with the procedure attached, which had been previously issued to them at the beginning of the project). Section 6.2 of the Atlantis Project Execution Pkan states the following:

As-Built Documentation
The Lead Engineer for each discipline area will ensure that all technical documentation is updated to reflect the as-built condition of the equipment prior to deployment to the field.

I also told them that when the DC1 unit started production one year ago, that final "as built" drawings should have been turned over to offshore operations, and they had not been, and that must be remedied

as soon as possible.

The leads have been very unhappy with the need to get these drawings correct and issued as built to operations, and they have complained to Naseman and Bill Broman, the PM. In a staff meeting with Bill Naseman during December 08, I tried to discuss the subject of these leads refusing to properly review drawings and assure they were correct and final issued, and Bill Naseman did not want to discuss it or do anything to resolve it, he was too worried about keeping the good old boys happy. Several other staff members heard my comments, including Eddie Antoine, John Vernor, and Frank Schoffield.

When Bill Naseman met with me on 1/12/09 to blame me for Alan Clark's departure, he also said he had been told by the leads that I was too aggressive in getting the engineers to correct their drawings and get them finalized as built and to operations. I responded that I did not think it was too aggressive to try and get final as-built correct drawings issued to operations after the unit had been in operation for over a year (since December 07). Ron Berger is the operations manager on the Atlantis project and he is aware of this problem (since he has not received any DC1 as-built drawings) and Tinika and I met with him in early January 09 to discuss the problem with him and advise our plan to resolve this unsafe situation.

To my knowledge, operations still does not have as-built final correct drawings for DC1, nor has there been any progress on the North Flank as-built drawings, which is scheduled to start up in mid-year 2009. I have also advised Naseman and the project leads/manager that we need a drawing schedule for these as-built drawings from the vendors but these leads (Hughes, Schwebel, Kirkham) refuse to ask the vendors for any drawing schedules, so how can they know when or if these as-built drawings will be done. BP project execution policy also calls for a drawing tracking schedule on all projects, and that is being ignored by the Atlantis engineering team, and we have received no support from Naseman to make it happen.

In conclusion, I believe that BP is in violation of US Code Title 43, Chapter 29, regarding their lease production and operations schedule which called for completion of all drawings as built when the DC1 unit started up in December 2007. First, BP should report this failure to perform per their lease requirements to the Department of the Interior, Minerals Management Group. Second, they should work to immediately resolve the incomplete drawings problem to ensure the safety of their offshore operation. Third, they should reinstate my job, since I was retaliatory discharged in violation of Title 42, chapter36, subchapter 3 of the US code.

Unknown

From: Kenneth Abbott [kwabbott@comcast.net]
Sent: Friday, February 27, 2009 3:57 AM
To: kwabbott@comcast.net
Subject: FW: Atlantis Document Numbering Procedure and Drawing Reviews/Approval by the leads
Attachments: 1400-10-AD-PR-0212.ZIP; 1440-10-PM-RP-0001 - Rev 3.ZIP

From: Abbott, Ken (SWIFT TECHNICAL SERVICES)
Sent: Wednesday, December 17, 2008 9:54 AM
To: Mack, John G; Malone, Ryan P; Jondle, John J; Whitehead, David K (Technip); Schwebel, John; Mack, John G; Hughes, John D; Weber, Rick G; Price, Mike (Clover); Broussard, Danielle M; Kirkham, Benny (BAMA); Broman, William H(HOU)
Cc: Curtis, Tinikka (NES)
Subject: FW: Atlantis Document Numbering Procedure and Drawing Reviews/Approval by the leads

Team - In a previous staff meeting, John Hughes had some questions re our project document approval process and numbering process. I have attached the previously issued procedures that show the process involved for your information and use. If you have any questions, please advise..

From: Abbott, Ken (SWIFT TECHNICAL SERVICES)

Sent: Tuesday, December 02, 2008 2:56 PM

To: Broman, William H(HOU); Curtis, Tinikka (NES)

Cc: Curtis, Tinikka (NES)

Subject: FW: Document Numbering Procedure and Drawing Reviews/Approval by the leads

Bill - as per your request in the staff meeting this morning, attached are the following two documents.

The first is the GOM standard procedure for numbering drawings.

The second is our Atlantis Project Execution Plan, and section 6.2 through 6.4 details the processes for the leads to review and approve drawings, and how they should be numbered.

<<...>>

<<...>>

Tinikka Curtis

Atlantis Subsea Project Team

Document Control

Tinikka.Curtis@bp.com

281-249-8978

bp

Gulf of Mexico
Deepwater Development Program

DOCUMENT NUMBERING GUIDELINE

DOCUMENT NUMBER: 1400-10-AD-PR-0212

REV	DATE	DOCUMENT STATUS	ORIGINATOR	CHECKED		APPROVED	
4	12/12/01	Revised for Consistency	SF	WRH		WCW	
3	10/15/01	General Revision – Update Sector, Discipline and Document Identifiers	SF	AF	PR	WCW	DER
2	08/23/01	General Revision – Updated Sector and Document Type Identifiers, Added Document Numbering Overview Chart,	SF	AF	PR	WW	DR
1	06/07/01	Approved for Use	GK	AF	PR	WW	DR
0	01/09/01	Issued for Review	GK	AF	PR	WW	RM
A	09/15/00	Internal Review	GK	SW		RM	

Document Control Number	Job Number	Area/Unit Designation	Discipline Code	Document Type	Sequence Number	Document Revision
	1400	10	AD	PR	0212	4

TABLE OF CONTENTS

1.0 SCOPE 3

2.0 GENERAL / DEFINITIONS 3

3.0 PROJECT COMMUNICATIONS 3

3.1 Correspondence 3
a. Project Numbers 3
b. Sector Identifiers 4
c. To / From Identifiers 5
d. Correspondence Type Identifiers 6
e. Sequence Number 6
f. Sheet number for Multi-Sheet Documents 6
3.2 Minutes of Meetings, Agendas and Non-Technical Document 6

4.0 Transmittals 7

5.0 TECHNICAL DOCUMENTATION 7

5.1 Numbering 7
a. Project Numbers Refer to Section 3.1.a 7
b. Sector Identifiers Refer to Section 3.1.b 7
c. Discipline Identifiers 8
d. Document Type Identifiers 8
e. Drawing or Sequence Numbering 9
f. Sheet Number for Multi-Sheet Documents Refer to Section 3.1.f 10
5.2 Revisions 10
5.3 Canceling Document Numbers 10

Attachments:

Attachment A	Minutes of Meeting
Attachment B	Technical Document Transmittal
Attachment C	Vendor Document Transmittal
Attachment D	Correspondence Transmittal
4 Attachment E	Technical Document Numbering Overview

1.0 SCOPE

This procedure provides a uniform and consistent method for assigning document identification numbers on the BP Deepwater Development Projects for project transmittals, correspondence and technical documents. This procedure does not apply to Mardi Gras.

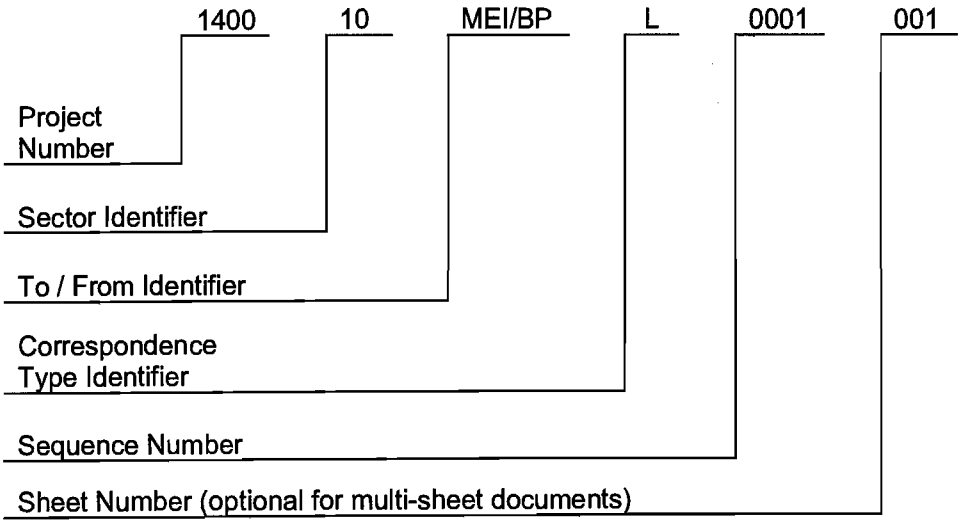
2.0 GENERAL / DEFINITIONS

- This numbering system is required for the BP Deepwater Development Program.
- All formal and informal documents distributed between BP, Contractors, Vendors, and other outside agencies will be assigned a document number in accordance with this procedure.
- The originator that initiates a document or correspondence is responsible for assigning the document number in accordance with this procedure.

3.0 PROJECT COMMUNICATIONS

3.1 Correspondence

- All outgoing correspondence and similar documents will be numbered per the following guidelines.



a. Project Numbers

A four-digit team or project number.

The following numbers have been assigned to the Deepwater Development Program:

4

- 1400 - PLT and PST
- 1410 - Thunder Horse Project
- 1420 - Holstein Project

- 1430 - Mad Dog Project
- 1440 - Atlantis Project
- 1480 – Mardi Gras Project

b. Sector Identifiers

A Sector Identifier is a unique identifier for project groups or components.

- 10 - General Project
- 20 - Topsides
- 4 25 - Integration
- 29 - Topsides Fabrication
- 30 - Subsea Well Systems (General)
  - 31 - Wellheads
  - 32 - Trees
  - 33 - Manifolds
  - 34 - Pipelines/Flowlines
  - 35 - Controls
  - 36 - Umbilical
  - 37 - Risers
  - 38 - Installation
  - 4 39 - Flexible
- 40 - Subsurface Well Systems (General)
  - 41 - Subsea Wellheads
  - 42 - Tree/Surface Wellheads
  - 43 - Risers
  - 44 - Production Riser Tensioning System
  - 45 - Drilling Riser Tensioning System
  - 46 - Well Bay Equipment
  - 47 - Installation
  - 48 - PRT Support System
  - 49 - Shipping and Handling Equipment
- 50 Floating Systems (hull and mooring)
  - 4
  - 51 - CSO – Houston
  - 52 - CSO – Finland
- 4 60 - Drilling Rig

- 70 - Installation
- 75 - Drilling
- 80 - Export Systems
- 85 - Operations
- 90 - Subsurface
- 95 - Commercial

NOTE: The second digit of the Sector Identifier is available to refine the meaning of the identifier. Any such modification must be agreed in writing and documented through revision of this document.

c. **To / From Identifiers**

- First group of characters designates the addressee
- Second group of characters designates the originator.

Typical To / From Identifiers are listed below. Additional identifiers may be added as needed by project and other groups. The Lead Project Secretary will maintain the full identifier list to ensure no duplication of identifiers:

- ABB ABB
- ABS American Bureau of Shipping
- AEI Aker Engineering, Inc.
- AKM Aker Maritime
- AT Atlantis Team
- BP BP
- THT Thunder Horse Team
- FMC FMC
- GVA GVA Consultants
- HMC Heerema
- HT Holstein Team
- HIT Holstein Installation Team
- INTEC Intec Engineering
- LOC London Offshore Consultant
- JRM McDermott
- MDT Mad Dog Team
- MEI Mustang Engineering, Inc.
- MGT Mardi Gras Team
- MMS Minerals Management Service
- PARAGON Paragon Engineering

4

- PRIDE Pride Offshore
- PLT Program Leadership Team
- PST Program Services Team
- USCG United States Coast Guard

4
- KWT Keiwit
- DSME Daewoo
- EXMO ExxonMobil

Where the To / From identifier field is utilized for contracts or purchase orders, the four-digit order number will be utilized as the identifier.

d. Correspondence Type Identifiers

CT Correspondence Transmittal
EM E-Mail
F Facsimile
IOM Interoffice Memo
L Letter
MOM Minutes of Meeting
NTD Non-Technical Document
TCR Telephone Conversation Record

e. Sequence Number

Four-digit number starting with 0001 assigned for each correspondence type.

f. Sheet number for Multi-Sheet Documents

A multi-sheet document is a document that extends over a number of sheets. All the sheets will be reviewed and approved individually and each will carry a revision number.

Sheet numbers are assigned sequentially starting with 01.

A multi-page document that is issued, reviewed and approved as a single document does not require sheet numbers, although page numbers may be used for clarity.

3.2 Minutes of Meetings, Agendas and Non-Technical Reports

Minutes of meetings, agendas and non-technical reports will not have a to / from identifier. Minutes of meetings, agendas and non-technical reports will have a unique identifier at that location in the document number that will define the type of document. Listed below are some typical identifiers for minutes of meetings, agendas and non-technical reports:

- MON Monthly Meeting
- PRG Progress Meeting
- SCH Schedule Meeting
- TM Technical Meeting

- VD Vendor Meeting
- WKLY Weekly Meeting
- AG Agenda
- RP Non-Technical Report

An example of the minutes of meeting numbering is shown on Attachment A.

4.0 TRANSMITTALS

Transmittals of Technical Documents and Correspondence Documentation shall be numbered in accordance with section 3.1 except that the correspondence type identifier will be replaced with a transmittal type identifier as indicated below.

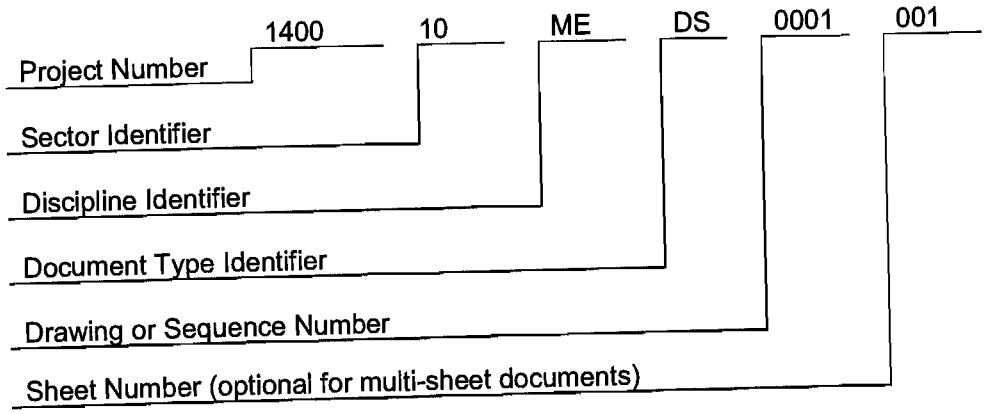
4

- T Technical Document Transmittal (Attachment B)
- CT Correspondence Transmittal (Attachment C)

5.0 TECHNICAL DOCUMENTATION

5.1 Numbering

All technical documents such as specifications, drawings, reports, etc. shall be numbered per the following guidelines: (Reference BP DWP – Technical Document Numbering Overview, Attachment E)



a. Project Numbers **Refer to Section 3.1.a**

b. Sector Identifiers **Refer to Section 3.1.b**

c. **Discipline Identifiers**

DISCIPLINE	IDENTIFIER	DISCIPLINE	IDENTIFIER
Project Management		Installation	
Administration	AD	Installation General	IG
Project Controls	PC	Installation Organization	HO
Financial	FN	Installation	HI
Assurance	AS	Marine Surveyor	MS
Interface	IF	Certified Verification Agent	CV
Information Mgmt	IM	Installation Equipment	HE
Project Management	PM	Installation Sketch	SK
Engineering		Contractual	CT
General	GE	Met-Ocean	MT
Process	PR	Dynamic Positioning	DP
Mechanical	ME	Tugs, Work Boats, AHTS	TU
Structural	ST	Barges	BA
Architectural	AR	ROV's	RO
Electrical	EL	Survey	SU
Inst. & Controls	IC	Ballast	BL
Fire & Gas	FG		
Communications	CM	Environmental/Regulatory	
Marine Engineering	MA	Environmental	EV
Naval Architecture	NA	Regulatory	RG
Piping	PI		
Hull	HL	Accommodations	AN
Drilling Systems	DR	Pipeline	PL
Corrosion & Paint	CP	Risers	RI
		Subsea	SB
Construction	CO	Flowlines	FL
Hook-Up & Commissioning	HU	Manifolds	MN
		Marine Outfitting	MO
		Mooring	MR
Facilities Operations	OP	Machinery/Utilities	MU
Drilling Operations	DO	Stability	SY
		Hydrodynamics	HY
Health & Safety	HS	HVAC	HV
		Weight	WT
Purchasing	PU		
Quality	QA		

4

d. **Document Type Identifiers**

Document type identifiers are as follows:

DB - Design Brief

4

PFD	-	Process Flow Diagram
PID	-	Piping & Instrument Diagram
DID	-	Duct & Instrument Drawing
ST	-	Studies
WC	-	Weight Control
SOW	-	Scope of Work
CR	-	Change Request
DSP	-	Decision Package
CP	-	Corrosion & Paint
UFD	-	Utility Flow Diagrams
DC	-	Design Criteria
DG	-	Drawing
DS	-	Data Sheet
SP	-	Specification
RP	-	Engineering Task / Philosophy / Report / Study
PR	-	Procedure
CA	-	Calculation
BOM	-	Bill of Materials
SK	-	Sketch
MA	-	Manual
LI	-	Lists / Indexes
EQ	-	Equipment List
BE	-	Bid Evaluation
MR	-	Material Requisition
INQ	-	Material Inquiry
PO	-	Material Purchase Order
CO	-	Purchase Order Change Order
VD	-	Vendor Data Requirements
IR	-	Inspection Requirements List
FM	-	Form
SCH	-	Schedule
SU	-	Submittals
TC	-	Comments to Technical Documents

4 e. **Drawing or Sequence Numbering**

A unique four-digit number assigned for each technical document. Each sector may choose to provide a block of sequence numbers based on disciplines or participating contractors within the sector. If this option is not chosen, the sequence number will be begin with 0001 for each technical document type.

For instrument or equipment data sheets, use the equipment/instrument tag number in place of the sequence number. For example, 1420-20-IC-DS-FV-2300.

Occasionally it will be necessary to prepare two data sheets for the same piece of equipment (i.e., centrifugal pump vs. reciprocating pump). The data sheets will be differentiated by a single digit sequence number after the equipment number (e.g., for pump service PBA-2300, the data sheet numbers would be DS-PBA-2300-1 and DS-PBA-2300-2). This practice shall only be employed during an RFQ cycle.

f. Sheet Number for Multi-Sheet Documents **Refer to Section 3.1.f**

5.2 Revisions

All documents will be issued with a revision number, which is not part of the document number. Revisions will be identified and controlled as specified in the contractors own engineering and design procedures.

5.3 Canceling Document Numbers

If an item is canceled, the document number is also canceled. After a document number is canceled, it may not be reassigned.

The original canceled document shall be marked "Void" and "See Drawing _____", and kept with the project records. The document register entry for the cancelled document shall be likewise annotated.

BP GoM
DEEPWATER DEVELOPMENT PROGRAM

17420 Katy Freeway, Suite 400
Houston, Texas 77094
Phone: (713) 350-7477 Fax: 713-350-7472
http://www.mustangeng.com

ATTACHMENT A

EXAMPLE

MEETING MINUTES

Meeting Purpose	**Weekly CH Topsides Status Meeting**	**Meeting Date**	**July 11, 2001**
Meeting Leader	**Larry Smith**	**Document No.** **1410-20-WKLY-MOM-0009 Rev. 0**	
Meeting Scribe	**Larry Smith**		

ATTENDEES

Mark Doing
Pete LaCroix
Mike Carnahan
John Long
Angelo Accardo
Danny Howard
Laurie Erwin

Additional Distribution: **Mike Johnson, Frank Johnson, Lynn Johnson and Mark Johnson**

No.	Action By	Due	Action / Decision
01	L. Smith		Safety Minute – Vehicle Safety
02	L. Smith	Info	Overview of Topics discussed during the last meeting.
03	D. Smith		HAZID to be scheduled for the PFD's and Layouts for verification with original HAZID findings.
NEXT MEETING SCHEDULED:			**Thursday, July 19, 2001 1:00 – 3:00**

BP GoM DEEPWATER DEVELOPMENT PROGRAM		17420 Katy Freeway, Suite 400 Houston, Texas 77094 Phone: (713)350-7477 Fax: 713-350-7472 http://www.mustangeng.com	
Meeting Title:	**Weekly CH Topsides Status Meeting**	**Doc. No:**	**Document No. 1410-20-PM-MOM-CH-007 Rev.0**

ATTACHMENT A (Continued)

ATTACHMENT B

EXAMPLE

BP Deepwater Development

16285 Park Ten Place, Houston, TX 77084
Phone: (713) 675-3400 Fax: (713) 215-8478

TECHNICAL DOCUMENT TRANSMITTAL

Date **24-July-2001**

Transmittal No.: 1420-20-HT/MEI-T-0004

TO: BP Deepwater Development
16825 Park Ten Place
Houston, Tx 77084

Attention: Distribution

Re: Client: BP
Project: GoM Deepwater Development Holstein Project

Project Number: 142001

Subject Holstein Spar Topsides Weight and C.G. Report

We are sending the document(s) listed below for the following
"Issued for Information"

Notes:
"Holstein Confidential Work Product"

Number of Copies						
FS	FSR	SD	Oth	Document No.	Rev	Title
0	0	0	0	1420-20-GE-RP-0002	F	Topsides Weight and C.G. Report

Sincerely yours,

Thomas A. Gauthey, P.E.
MEI Project Manager-Holstein

Distribution

MEI/Other

Document Control (1420) - MEI, (email)
Grogan, Don - BP, (email)
Brumbaugh, Scott - MEI, (email)
Hafner, Ray - BP, (email)
Szush, Jim - JRM, (email)
Hunteman, Jim - MEI, (email)
Alexander, John F. - MEI, (email)
Price, Howard - MEI, (email)
Baird, Alan - BP, (email)
Johnson, Hugh - MEI, (email)
Pardue, Lee - BP@CAMI, (email)
Dewalt, Ken - MEI, (email)
Emmerson, Tony - BPWL, (email)
Gauthey, Tom - MEI, (email)
Bowman, Dale - BP, (email)
Doing, Mark - MEI, (email)
Guidry, Mike - BP, (email)
Hartill, Kelli - MEI, (email)
Spittler, Sue - CAMI, (email)
Caulfield, Keith - JPK@CAMI, (email)
Zwerneman, Farrel - MEI, (email)
Crane, Tom - BP, (email)
Burger, Steve - BP, (email)
Raabe, Tom - MEI, (email)
Jones, Gary - MEI, (email)
Littlefield, Burt - BP, (email)
Glazener, Ed - MEI, (email)
Jerrols, Linda - CAMI, (email)
Cavalier, Tim - JRM, (email)
Hungate, Martha - BP@CAMI, (email)
Drozd, Jimmy - MEI, (email)
Mok, Jin - MEI, (email)

Client

Legend: FS - Full Size; SD - Shot Down (11 x 17); FSR - Full Size Reproducible
Oth - Other; Resp - Responsible Engineer

Transmittal No.: 1420-20-HT/MEI-T-000
Printed on Wednesday, Jul 25, 2001 @ 9:16 am

ATTACHMENT C

EXAMPLE

Mustang Engineering, Inc.
16001 Park Ten Place
Houston, TX 77084
Phone: (713) 215-8000 Fax: (713) 215-8506

Vendor Document Transmittal

Date: Date
Vendor Name
Vendor Address
Vendor Address

Attention: Name

Transmittal No.:1410-20-CHT/MEI-V-0698
Package: 1029
P.O.: xxxx-406.0-004

S.O.: 97264
Client P.O.:

Re: Client: Client Name
Project: Project Name
Project Number: 6420

Gentlemen:

We are sending you the following documents:

Qty	Vendor Dwg. or Doc. No.	Rev	Title	Applies to PO Item	Status

SEE ATTACHED LIST

STATUS:
1. Manufacturer may proceed.
2. Manufacturer may proceed. Revise then resubmit final documents.
3. Manufacturer may proceed as noted. Revise and resubmit for review.
4. Not Correct - Revise and resubmit.
5. Manufacturer may proceed. Review Not Required.
6. For Information Only.
7. Void

REMARKS:

Please note the addition of PSLL-4740-C to the instrument air header
This is an internal transmittal only

NOTES:

1. All changes or additions must be reflected in a revision block or drawing number by an appropriate revision indication.
All changes to be clouded.

CC: Richard Shirley - T, Mike Hunt - T, Rick Bauknight - X, John Kealey - X, John Bagby - X, Don Alexander - X

Betty Dawley
Document Control

ATTACHMENT C (CONTINUED)

Mustang Engineering, Inc.
Vendor Document Transmittal

Transmittal No.:	1410-20-CHT/MEI-V-0698	Package:	1029
P.O.:	XXXX-406.0-004	S.O.:	97264
Date:	Date		

Qty	Document	Rev	Description	Applies to PO Item	Status
1	97264-15B	6	P & ID DUCT BURNER SECTION		1
1	97264-15C	6	FLAME RELAY WIRING DIAGRAMS		1

ATTACHMENT D

EXAMPLE

BP Deepwater Development

16001 Park Ten Place, Houston, TX 77084
Phone: (713) 675-3400 Fax: (713) 215-8478

CORRESPONDENCE DOCUMENT TRANSMITTAL

Date: **17-October-2001**

Transmittal No.: 1400-10-PROJ/PST-EM-0011

TO:

Re: Client: BP
Project: GoM Deepwater Development

Attention: Internal Distribution

Project Number: 1400

CC:

David Randolph - BP, (email)
Martin Thomas - BP, (email)
Phil Wicks - BP, (email)
File Copy - 1400.10.100.115.01.07 (TM)
Walt Weathersbee - BP, (email)
Brad Smith - MEI, (email)
Mike McCrary - BP, (email)
John Stokes - BP, (email)
Danny Boardley - MEI, (email)
Gary Collins - BP, (email)
Bob Raiders - BP, (email)
David Wisniewski - BP, (email)

Additional Recipients:

Subject: PSM Meeting

We are sending the document(s) listed below for the following reason:

"Issued for Information"

Y:\1400\10- GP\100 -PM\115 -CORR\01 -INT\01 -MOM\1400-10-TM-Mom-0011

This email was sent out on 10/17 to the Internal Distribution

This email can be found in the Y:\ drive as email 0011

Number of Copies						
FS	FS	SD	Oth	Document No.	Rev	Title
1	0	0	0	1400-10-WKLY-MOM-001 1	n/a	PSM Minutes of Meeting

Legend: FS - Full Size
FSR - Full Size
SD - Shot Down (11 x 17)
Oth - Other

Sincerely yours,

John Stokes
Facilities Leader

Printed on Thursday, Oct 18, 2001 @ 5:58 pm

Case 2:09-cv-01193 Document 345-9 Filed in TXSD on 04/04/12 Page 38 of 115

BP DWP - TECHNICAL DOCUMENT NUMBERING OVERVIEW

Project No.	Sector	Discipline	Document Type	Sequence or Drawing No.	Sheet No.
1400	10	ME	DS	0001	1

PROJECT NUMBERS	
FLT, SCST, PST	1400
Thunder Horse	1410
Holstein	1420
Mad Dog	1430
Atlantis	1440
Mardi Gras	1480

SECTOR IDENTIFIERS	
General	10
Topsides	20
Integration	25
Topsides Fabrication	29
Subsea Wells System (General)	30
Wellheads	31
Trees	32
Manifolds	33
Pipelines/Flowlines	34
Controls	35
Umbilical	36
Risers	37
Installation	38
Flexible	39
Subsurface Well Systems (General)	40
Subsea Wellheads	41
Tree/Surface Wellheads	42
Risers	43
Production Riser Tensioning System	44
Drilling Riser Tensioning System	45
Well Bay Equipment	46
Installation	47
PRT Support System	48
Shipping and Handling Equipment	49
Floating Systems (hull and mooring)	50
CSO-Houston	51
CSC-Finland	52
Drilling Rig	60
Installation	70
Drilling	75
Exporting Systems	80
Operations	85
Subsurface	90
Commercial	95

DISCIPLINE IDENTIFIERS	
Project Management	
Administration	AD
Assurance	AS
Financial	FN
Information Management	IM
Interface	IF
Project Controls	PC
Project Management	PM
Engineering	
Architectural	AR
Communications	CM
Construction	CO
Corrosion & Paint	CP
Drilling Systems	DR
Electrical	EL
Fire & Gas	FG
General	GE
Hook-Up & Commissioning	HU
Hull	HL
Inst. & Controls	IC
Marine Engineering	MA
Mechanical	ME
Naval Architecture	NA
Piping	PI
Process	PR
Structural	ST
Installation	
Ballast	BL
Barges	BA
Certified Verification Agent	CV
Contractural	CT
Dynamic Positioning	DP
Installation	HI
Installation Equipment	HE
Installation General	IG
Installation Organization	HO
Installation Sketch	SK
Marine Surveyor	MS
MetOcean	MT
ROV'S	RO
Survey	SU
Tugs, Work Boats, AHTS	TU
Drilling Operations	DO
Facilities Operations	OP
Health & Safety	HS
Environmental/Regulatory (ER)	
Environmental	EV
Regulatory	RG
Accommodations	AN
Flowlines	FL
Hydrodynamics	HY
Machinery/Utilities	MU
Manifolds	MN
Marine Outfitting	MO
Mooring	MR
Pipeline	PL
Purchasing	PU
Quality	QA
Risers	RI
Stability	SY
Subsea	SB

DOCUMENT TYPE IDENTIFIERS	
Bid Evaluation	BE
Bill of Materials	BOM
Calculation	CA
Change Request	CR
Comments to Technical Documents	TC
Data Sheet	DS
Decision Support Package	DSP
Design Brief	DB
Design Criteria	DC
Drawing	DG
Duct & Instrument Drawing	DID
Engineering Task/Philosophy/Report/Study	RP
Equipment List	EQ
Form	FM
Inspection Requirements List	IR
Lists / Indexes	LI
Manual (or Plan)	MA
Material Inquiry	INQ
Material Purchase Order	PO
Material Requisition	MR
Piping & Instrument Diagrams	PID
PO Change Order	CO
Procedure	PR
Process Flow Diagrams	PFD
Schedule	SCH
Scope of Work	SOW
Sketch	SK
Specification	SP
Studies	ST
Submittals	SU
Utility Flow Diagrams	UFD
Vendor Data Requirements	VD
Weight Control	WC

BP

Well Systems Integration & Design Engineering

SUBSEA PROJECT EXECUTION PLAN

BP ATLANTIS CONFIDENTIAL WORK PRODUCT

BP Doc. No.: 1440-10-PM-RP-0001			Doc. No.: 3478-BPM-RA-0001			
Rev. No.	**Rev Date**	**Revision Description**	**Prep. By:**	**Technip Chk'd.**	**Technip Approved**	**Client Approval**
A	2/11/02	Program PEP	EHM	JLB	JLU	
B	8/29/02	For Review and Approval	JLB	CJR	CME	
C	4/22/03	For Review and Approval	AW	RKO	CH	SSW
0	10/29/03	For Information	RKO	JK	AW	SSW
1	11/09/04	Revised as Noted	AW	CG	AW	
2	1/19/06	Revised as Noted	AW	HW	AW	
3	11/06/06	Revised as Noted‡	PC	MV	AW	RM

FOREWORD

‡The PEP covers the Atlantis project as sanctioned which includes a single riser, flowline and single umbilical installation campaign. Revision 3 covers alternate installation campaigns and the Alternate Development Concept (ADC), also known as Subsea Systems Phase 1 (SS1), to allow for installation flexibility in response to current indirect factors and restraining activities so as to achieve 1st oil as scheduled as well as the future development in the form of DC 3 Atlantis North Flank. The provision of installation flexibility and future development of Atlantis Subsea includes the following options:

Prelay:

The prelay option was developed to allow for the selected riser flowlines early in the filed development to be laid and left on the seabed while waiting for the delivery of the PQ. Details of the prelay campaign will be included in Attachment 12 of this document as required.

Split Campaign

The spilt campaign was developed to further increase the installation flexibility, due to the availability of the heavy lift vessel (Balder) and other restraining activities. The split campaign would allow for 1st oil to be delivered from one half of the field followed as scheduled and at a later date with installation of the riser and flowlines for the remaining half of the field. Attachment 11 details the Split Campaign.

Atlantis North Flank DC 3

Development associated with the Atlantis North Flank (DC3) is covered in this PEP document with details found in Attachment 9.

Subsea Systems Phase 1(SS1) / Alternate Development Concept (ADC)

Following the discovery of potential welding issues with BP Thunderhorse manifold DC41, the Atlantis project team immediately initiated investigation and development of the ADC since the Atlantis manifolds and PLETs were welded with similar practices and procedures to those of the Thunderhorse manifold. As of October 2006, the ADC will be known as Subsea Systems Phase 1 (SS1). Attachment 13 will cover the specific PEP issues associated with the SS1. The SS1 details are documented in Attachment 13.

TABLE OF CONTENTS

1.0 EXECUTIVE SUMMARY - INTRODUCTION 6
1.1 Subsea System Project Overview 7
1.2 Scope of Work 8
1.3 Future Provision 10

2.0 HEALTH, SAFETY AND ENVIRONMENTAL PLAN 11
2.1 General 11
2.2 Formal Safety Assessment (FSA) Plans 11
2.3 Security Plan 13

3.0 PROJECT MANAGEMENT - ADMINISTRATION 16
3.1 Project Identification 16
3.2 Management Philosophy 18
3.3 Project Organization Plan 20
3.4 Correspondence 24
3.5 Project Document Control 26
3.6 Project Meetings 26

4.0 PROJECT MANAGEMENT - PROJECT CONTROLS 27
4.1 Project Controls Overview 27
4.2 Scheduling 27
4.3 Estimating 29
4.4 Project Services Plan / Cost Control and Forecasting 30
4.5 Change Control and Management of Change 32
4.6 Progress Measurement 32
4.7 Risk Assessment and Management 34
4.8 Reporting Requirements 38
4.9 Invoicing 39

5.0 QUALITY AND QUALITY PLAN 40
5.1 Quality Scope of Work 40
5.2 Quality Audits 41
5.3 Inspection and Testing 41
5.4 Corrective Action Process 42
5.5 Quality Records 42
5.6 Reporting 42
5.7 Quality Assurance Plan 43

6.0 TECHNICAL MANAGEMENT PLAN - ENGINEERING CONTROL 45
6.1 Engineering Scope of Work 45
6.2 Design Criteria Document 48
6.3 Engineering Deliverables Numbering System 49
6.4 Engineering Deliverables Preparation 49
6.5 Mechanical Equipment Numbering 49
6.6 Engineering Design Symbols 50
6.7 Design Reviews 50

6.8 Best Practices 51
6.9 Value Engineering Plan 52
6.10 Design Freeze Log 54
6.11 Areas of Concern - Critical Issues 55

7.0 INTERFACE MANAGEMENT 56
7.1 Interface Management Overview 56
7.2 Interface Management Scope and Objectives 56
7.3 Basic Tenets of the Interface Management System 57

8.0 PROCUREMENT AND PROCUREMENT PLAN 58
8.1 Procurement Scope of Work 58
8.2 Procurement Document and Material Control 58
8.3 Request for Quotations, Work Package Release and Requisitions 59
8.4 Bid Receipt and Evaluation 59
8.5 Purchase Order Award 59
8.6 Post Award Administration 60
8.7 Procurement Close Out Requirements 60

9.0 CONSTRUCTION PLAN 61
9.1 Construction Scope of Work 64
9.2 Constructability Plan 64
9.3 Contracting Plan 67
9.4 Project Management Plan 68
9.5 Operability 69
9.6 Transportation Plan 71
9.7 PQ Integration Plan 73
9.8 Offshore Installation Plan 73
9.9 Severe Weather Contingency Plan 76
9.10 Offshore Logistics 76
9.11 Subsea Commissioning and Start-up Plan 76
9.12 Operations Plan 76
9.13 First Year Production Efficiency Plan 77

ATTACHMENT 1 78
Atlantis Project Organization Charts 78

ATTACHMENT 2 83
Atlantis Key Representatives and Addresses 83

ATTACHMENT 3 84
Project Meetings Calendar 84

ATTACHMENT 4 85
Work Breakdown Structure (WBS) Diagrams 85

ATTACHMENT 5 86
Schedules 86

ATTACHMENT 6 ..... **87**
"BP Data Security and Information Brokering" 87

ATTACHMENT 7 ..... **88**
INTERNATIONAL TRAVEL REQUIREMENTS FOR CONTRACTORS" 88

ATTACHMENT 8 ..... **90**
BPs GOLDEN RULES OF SAFETY 90

ATTACHMENT 9 ..... **91**
DC3 Specifics 91

ATTACHMENT 10 ..... **99**
BP Atlantis Project Final Vendor Data Book Letter 99

ATTACHMENT 11 ..... **102**
Split Installation Campaign 102

ATTACHMENT 12 ..... **112**
Prelay 112

ATTACHMENT 13 ..... **114**
Subsea Systems Phase 1 (SS1) 114

1.0 EXECUTIVE SUMMARY - INTRODUCTION

The purpose of the Subsea Systems Project Execution Plan (PEP) is to define the strategy of the Subsea Systems Team in supporting the Atlantis GOM Deepwater Development Project on behalf of BP Exploration & Oil Inc. (BP) and BHP Petroleum (GOM) Inc. (BHP). This PEP for the Subsea Systems project complements and is subordinate to the overall Atlantis Project Management Plan (1440-10-PM-PR-003).

This plan is coordinated with the individual plans provided by the other major project teams, including the Floating Systems (comprising Hull and Topsides), the Wells and Operations Teams. In addition, this document is complemented by supporting plans provided by the prime contractors responsible for the design, supply and installation of the Subsea equipment. These individual PEPs complement the Subsea Systems PEP and are included as Appendices under separate cover.

All of the plans are written as point-forward, living documents and, as such, will be updated and distributed as major strategic issues evolve or change. The prime contractors will also maintain their individual plans and review and update these documents as the need arises.

The Subsea System associated with the Atlantis Project, together with the other major BP GOM deepwater projects (Thunder Horse, Mad Dog and Holstein) are being developed under various long-term contracts for engineering services and equipment. These contracts contain some commercial commonality and technical standardization features to ensure maximum cost effectiveness to BP. The overall project work is planned to occur in 3 distinct phases: Select Phase (Concept Development), Define Phase (FEED) and the final Execute Phase in which detailed engineering occurs and firm hardware orders are placed.

The Atlantis North Flank Single Well Tie-back Project, Project Execution Plan (PEP) (Define Phase), Document Number: 1440-10-PM-RP-0002 forms the basis for the development of the Atlantis North Flank single well tie-back. It includes the engineering, procurement, construction, and offshore installation activities required to tie-back and complete subsea production well (GC743#5ST) and to ensure the operability and expandability of the subsea system. Project scopes associated with the Atlantis North Flank single well developments are: drilling (tie-back) operations and completion of the well, installation of subsea tree, manifold, intermediate PLET, flowlines, jumpers, umbilical, and minor topsides control modifications. ANF/DC3 passed through the select / define gate by BP on 12/22/04 and by BHP on 10/05/05. It is expected that in Mar 06' Atlantis DC3 will pass through the execute phase. Document number 1440-30-PM-DSP-0209, North Flank (DC3) System Selection (Decision Support Paper 1) discusses the system options and configuration selection for the

DC3 development. It is planned for the ANF/DC3 Subsea team to operate in accordance with this existing plan, however it becomes necessary to be able to include additional information to the base case document and also highlight deviations (to this PEP) where they will exist, this will be achieved by marking paragraphs where changes are required and the specific ANF/DC3 changes will be captured in Attachment 9.

NOTE: A footnote will be added to paragraphs in this document with an asterisk to indicate where specific variations have been adopted for ANF/DC3 execution.

1.1 Subsea System Project Overview

Atlantis Field

The Atlantis Field is located along the Sigsbee Escarpment in Green Canyon Blocks 699, 700, 742, 743 and 744, approximately 190 miles south of New Orleans. The field is part of the Southern Green Canyon trend, lying adjacent to the Mad Dog and Neptune discoveries and to the south of Holstein. Mad Dog and Holstein are currently being developed and will also be operated by BP. The Atlantis discovery well, GC 699, reached total depth on June 6, 1998. The first appraisal well, GC 743 ST1, reached total depth August 22, 2000 and the second sidetrack was completed on October 15, 2000. A second appraisal well, GC 743 #2, reached total depth in August, 2001, and a sidetrack finished in October, 2001.

Atlantis will be developed using a moored semi-submersible as a production and quarters (PQ) facility with Subsea trees tied back to the PQ host using Steel Catenaries Risers (SCR's). The produced oil and gas fluids will be exported by means of the Mardi Gras 24-inch oil pipeline and 16-inch gas pipeline.

The overall development plan addresses the key reservoir uncertainties present at Atlantis: namely container size (STOOP), compartmentalization, reservoir energy and heterogeneity. To support the PQ host facility, a separate dynamically positioned (with mooring capability) long-term drilling unit (LTDU), known as the Development Driller II (DDII), operated by Global Santa Fe, will be contracted for all drilling, completion and well intervention work. In addition, the DDII will also be capable of installing seafloor equipment such as manifolds, production/water injection trees, etc. The production facilities will be designed for 150 mbopd*, 75 mbwpd produced water and 180 MMCFD total gas processing capacity. Of the 180 MMSCFD total gas capacity, 60 MMSCFD is designated for riser-based gas lift, to be available at field startup. Water injection capability of 75 mbwpd will be installed from First Oil. The PQ will have sufficient space and payload available for future expansion. Payload

* Upgraded to 200 mbopd; refer G. Sills letter 27 Sept 04, "Atlantis – State of the Project"

associated with the PQ for the subsea team is tracked by submittal of a monthly Weight Management report.

The Atlantis Field's current P50 estimated recoverable reserves for the Atlantis Sanction case are 560mmboe, which includes NGLs less fuel. The field will be developed with approximately 20 wells, within a range of 13 – 30 wells. The 20 wells include 16 producers and 4 water injection wells. Nearly every well will have a future re-completion or sidetrack capability. The Operator in its depletion plan envisions an average of approximately 16 mmboed/well activity. With the 560 mmboe reserve basis, the production plateau length is estimated to be 6 years. The pre-drill program of 5 wells (drill and complete) is scheduled to begin in 1Q, 2004.

Owners' Interests

Atlantis is a joint venture development; the partner's interest is BP (56%) and BHP Billiton (44%). BP is the operator of the overall development.

1.2 Scope of Work

The Subsea Team's scope of work includes engineering, procurement, fabrication and commissioning of the Subsea Production System. The specific responsibilities and roles of the Subsea System Team in bringing this equipment together are addressed in Section 6.1.

The Subsea trees will be connected to the wellheads with the flowline connectors connected to manifolds by means of rigid jumpers. Additional satellite production and water injection wells are planned to support the total production requirements. The production trees will be provided with remotely actuated adjustable chokes to provide flow and pressure control. The production manifolds will serve as gathering points for the production wells and a separate water injection manifold will distribute water to the injection wells. Each of the Subsea manifolds will be designed to serve 4 wells. Initially, four of the 4-well manifolds are planned but the ultimate number of manifolds will be dictated by the field reservoir requirements. All manifold* valves will be manually (ROV) actuated. The production, test and water injection headers of each manifold will be piggable. The design of the manifold has been carefully considered to minimize corrosion and the formation of hydrates. All production manifold headers will be insulated and the entire manifold structure will be cathodically protected for the 20-year design life of the Subsea system.

The trees will be operated by an electro-hydraulic multiplexed control system. Electrical power and control signals, hydraulic power and chemical supplies will be supplied to the

* The manifolds are modified in the ADC concept. See attachment 13 for the specifics.

trees through flying leads. A Subsea control module (SCM) will decode the electrical signals and direct hydraulic power to the various tree functions. The SCM will also receive the output of the tree's data acquisition system and transmit the information to the surface. The data acquisition system incorporates pressure and temperature transmitters, sand detectors, choke position indicators and flow meters (water injection trees). The SCM will be installable and retrievable underwater using a ROV actuated, wire line-deployable tool. All control functions will be controlled from the topside-installed Master Control Station (MCS).

The electrical and hydraulic umbilicals, flying leads and Umbilical Termination Assemblies (UTAs) comprise a distribution network for the Subsea controls system. They provide the power and control interfaces between the topside MCS, SCM and individual Subsea components.

The initial development phase of Atlantis envisions 4 production risers, 1 water injection riser and 1 test riser. All production and test risers are 10" in 16" Pipe-In-Pipe (PIP) design, incorporating a 10.75 in. OD X 0.75 in. WT thickened jacket pipe over a distance of 5,290 ft. below the hang-off and a subsequent 3,440 ft. of 1.25 in. WT thickened jacket pipe to a distance of a point 120 ft. beyond the TDP. All production flowlines and risers will be insulated and Vortex Induced Vibration (VIV) strakes added where necessary. Additionally, the risers will be fitted with buckle arrestors and cathodic protection anode bracelets where appropriate. A design life of 25 years has been used in the riser and flowline designs. All risers will be supported from the PQ host pontoon deck and terminate at the main deck where a diverter block, inclusive of an isolation valve, will be attached. The water injection riser is of simple monobore design, incorporating a 10.75" OD x 1.50" carbon steel WT pipe with VIV strakes and appurtenances as for the production and test risers.

The Atlantis Field depth ranges from 4,400 – 7,200 fsw and extensive use will be made of diverless systems and ROV interfaces. All major support operations for the Subsea system will be diverless. ROV interfaces will be provided on the Subsea equipment to facilitate installation, testing, operation and inspection. Where appropriate, running tools and/or surface wires will be used to install and retrieve Subsea equipment components.

In the event that installation cannot be conducted as per the base case schedule, a split campaign could be envisioned. Such a campaign will be conducted under the M.O.C. (Management of Change) requirements. Attachment 11 will described the Split Campaign installation implications, process requirements, Atlantis sub team buy-ins and approvals etc.

Additionally, a prelay campaign for the flowlines could be envisaged to capitalize on vessel opportunities due to any unforeseen delays to the Atlantis schedule. The prelay campaign is documented in attachment 12 in this document.

1.3 Future Provision

The Subsea Production system will be capable of being expanded to allow tie-in of future wells, manifolds, risers and flowlines, all feeding from identified or unidentified drilling sites. A total riser count of sixteen (16) will be within the capability of the host PQ vessel. In addition to the eight (8) base case umbilicals, the PQ will be capable of accepting an additional sixteen (16) umbilicals. This will total to a maximum of twenty-four (24) umbilicals as currently conceived for the Atlantis PQ.

Well 734-5 lies on the upper level of the Sigsbee escarpment in 5400 FSW, while Drilling Center DC1 lies to the south at the foot of the escarpment. ANF/DC3 is set up as a separate project within the Atlantis project. To capitalize on the expertise which is available within the subsea delivery team, ANF/DC3 will make use of standard Atlantis equipment where possible and exercise the synergies that exist within the current engineering and design team. The development of ANF/DC3 PEP attachment makes use of the present Atlantis Subsea PEP as a building block and incorporates ANF/DC3 specifics. These specifics will be captured and updated in Attachment 9 of this document accordingly.

2.0 HEALTH, SAFETY AND ENVIRONMENTAL PLAN*

2.1 General

This section describes the planned Health, Safety and Environmental (HSE) policies and procedures for the integrated Atlantis Subsea Team to ensure that the project's design, construction and installation activities are safe and environmentally sound. The policies and procedures are designed to meet all applicable government regulations and API recommended practices.

The Atlantis Project Subsea HSE Plan, BP document no.: 1440-30-HS-RP-0081 (Technip Document No: 3478-BHS-RA-0001), was developed for the Subsea Team to facilitate the implementation of Getting HSE Right (GHSER) and provide guidelines on how the project will attain the Best-in-Class health and safety performance throughout all phases of design, construction and transition into operations. The Subsea Project Health and Safety Plan provides the framework needed to enable the Subsea Team, including contractors and interested outside parties, to understand how health and safety is managed and delivered on the Atlantis Project, and how accountabilities are set out at various levels of management. The plan specifically outlines the following:

- Subsea Project HSE Organization and Responsibilities
- Hazard Assessment and Management
- Health and Safety Training requirements for Team Members and Contractors
- Safe Work Practices and use of Advanced Safety Audits (ASA) and the use of Safety Training Observation Program (STOP) cards
- Contractor Health and Safety
- Regulatory Requirements
- Environmental Policies
- Performance Standards and Document Control
- Crisis and Emergency Management
- Health and Safety Performance Monitoring

The Atlantis Subsea Project HSE Plan is considered a living document and is updated to reflect project stage changes.

2.2 Formal Safety Assessment (FSA) Plans

Hazard management will ensure that all HSE risks appropriate to each phase of the Atlantis Project are satisfactorily addressed. This effort will begin in the concept selection phase and

* See attachment 9 for ANF/DC3 specific requirements

mature progressively through detailed design, construction and operating phase. It will also incorporate consideration of future decommissioning and abandonment operations. The Atlantis Subsea Team will identify, evaluate, and manage HSE hazards to acceptably low levels of risk in accordance with the BP Hazard Management Strategy (1400-20-RP-6000).

Formal Safety Assessments (FSAs) are used to identify hazards associated with the Subsea equipment and to mitigate those Hazards on a cost/benefit basis. Beginning with a Define Phase preliminary HAZOP, the Project Team will conduct a variety of risk analysis reviews including:

- HAZOPs
- HAZIDs – Design Focused
- HAZIDs – Activity Focused
- SIMOPs Reviews
- Operability Reviews (included with HAZOPs)
- Peer Reviews
- Assurance Related Activities

All FSAs will be conducted in accordance with API RP 14J, "Design and Hazards Analysis for Offshore Production Facilities."

The output of these activities will result in a list of potential risks complete with a subjective rating of risk level and potential mitigation actions. A subjective risk reduction will be identified and tracked to closure with each potential mitigation action. These risk items will be delivered to the design teams for incorporation into the design as appropriate. Timing of these activities can be found in Table 2.2-1.

Table 2.2-1: MAJOR HSE ACTIVITIES

Description	Timing	
Preliminary HAZOP	March 2001	(Completed)
HSE Plan	Dec 2001	(Completed)
Subsea Execution Risks	Feb 2002	(Completed)
Operability Review	April 2002	(Completed)
Hazard Tracking Register	June 2002	(Completed)
Operability Workshop	August 2002	(Completed)
Main Subsea Hazop	Oct 2002	(Completed)
HSE Training	July 2002	(Completed)
Installation HAZID	Early 2004	(Completed)
Performance Standards	Integrity HAZAN	TBD

Table 2.2-1: MAJOR HSE ACTIVITIES		
Description	**Timing**	
Chain Jack SCR Pull-In Equipment HAZID	May 2004	(Completed)
Bayou Coating Risk Assessment (HAZID)	August 2004	(Completed)
Umbilical Installation HAZID	October 2004	(Completed)
Simultaneous Operations (SIMOPs)	December 2004	(Completed)
Manifold SIT HAZID	January 2005	(Completed)
Flowline & Riser Installation HAZID	January 2005	(Completed)
Bredero Lessons Learned Session – Thunderhorse and Mardi Gras Projects	February 2005	(Completed)
Umbilical Testing HAZID	March 2005	(Completed)
Umbilical Load Out HAZID	March 2005	(Completed)
Umbilical Installation Procedures HAZID	August 2005	(Completed)
Manifold Installation HAZID	October 2005	(Completed)
Tree and IWOCS Installation Hazid	October 2005	(Completed)
Jumper Fabrication Hazid	December 2005	(Completed)
Jumper Installation Hazid	January 2006	(Completed)
Flowline and Riser Acceptance Testing Hazid	January 2006	(Completed)
Subsea QA System Leak Test Procedure Hazid (Assurance)	January 2006	(Completed)
Remote Pull-In Hazid	January 2006	Completed)
Half Shell Handling Hazid	January 2006	(Completed)
Flowline & Riser Installation Lay & Pull-in Hazid	January 2006	(Completed)

2.3 Security Plan

The Atlantis Project Team will implement a Security Management System to assess and mitigate the losses associated with security issues. The objective of the Security Management System will be to:

- Protect people, property, information and reputation
- Minimize economic losses and business interruption

The Security Management System will be in compliance with all appropriate standards and develop individual and collective security awareness and responsibility. The Project Team will be fully responsible for supervision of its personnel to ensure that they strictly adhere to

all applicable security requirements. The Project Team will also ensure that the security systems of its contractors and suppliers are consistent with its own.

The Security Management System will address the following requirements for each individual asset:

People: The Project Team will have a program in place to create security awareness for the Projects own and associated staff as well as the contractor's own, subcontracted and associated staff. The program shall address appropriate protection measures relative to the execution of the work or to Project and contractor offices.

The Project Team will ensure that personnel who travel for the Project are covered by a travel management system (refer BP Travel Policy, Revised April 2001 and AMI-ST-HS-0029 Travel, Health, Safety and Security Guidelines). This management system includes preferred methods of transportation (e.g. approved airlines, ground transport services, etc.), and contingency plans in case of a security breach. The travel management system administrators have an ongoing process to identify and regularly review the nature of potential security threats and vulnerabilities, update security and contingency plans in response to changes in security risks and assist local authorities in the evacuation of personnel. All security breaches shall be reported to the Project within twenty-four hours. The Project Team may be required to file formal reports of such breaches or assist local authorities or investigation of such breaches.

Property: The Project Team will secure material assets (e.g. offices, installations, field sites). The measures will include perimeter security, access control, vital point protection and communications. Contractors shall have a security plan for all sites where Project work is to be performed. This program should include a 24 hour manned security entrance and exit and secured facilities for storage of equipment and materials or as deemed appropriate by the BP Leads and as approved by the Delivery Manager...

The Contractors will be responsible to demonstrate to the Project Team that all security risks that fall under the contractor's responsibility have been reduced to a level that is As Low as Reasonably Practicable.

Information: The Project Team will safeguard all information including that in electronic or written format. This includes the confidentiality, integrity and availability of information in all locations including the Projects own premises.

Project documentation security requirements:

All documentation is required to be labeled "Confidential Work Product" and is not to be disclosed to third parties. All members of the Atlantis project team will be kept updated on current project document locations for up-to-date access to relevant documents.

All employees and contractors are required to sign a "Confidentiality and Intellectual Property Agreement".

All employees receive a power point presentation entitled "BP Data Security and Information Brokering", herein contained as Attachment 6.

Access to documents (electronic and hard copy) will be controlled.

Reputation: The Project Team will ensure that the legacy from its operations will not adversely affect the reputation of BP or any associated contractors/suppliers.

Travel and Offshore Related Safety Issues

- Driving Safety
  As of January 1, 2005 the "BP Group Functional Standard – Personnel Safety – Driving" replaces the Group Road Safety Standard and supersedes the Golden Rules of Safety – Driving. Further information and mandates can be found in the "Driving Standard – Immersion testing Phase – Study Guide" – "10 Steps to Arrive Safely" which can be found on http://hsse.bpweb.bp.com/DrivingSafety/
- International Travel on Atlantis business requires the traveler have a Travel Health Assessment and recommended immunizations prior to travel.
- BP personnel traveling internationally on business are required to have Travel Health Assessments and recommended immunizations prior to travel. The WestLake 1 Medical Department provides the following resources to BP employees:
  - Medical Assessment
  - Immunization Review and Update
  - Country-specific Consultation
  - General Health Protection Consultation
  - Provision of a Travel Kit (charged to Traveler)
  - SOS Card
- Technip personnel are responsible for arranging their medical requirements through arrangements with Suburban Physicians Center (281-679-5600).
- Subsea team members traveling offshore shall be in possession of a valid "License-to-go-offshore" and Water Survival Certificate or training card.
- All contractor/vendor personnel working offshore on a BP facility are required to have completed Safegulf and BP 6-in-1 Training.

3.0 PROJECT MANAGEMENT - ADMINISTRATION

3.1 Project Identification

Unique project identifiers for the Deepwater Development program have been identified for each of the projects. These are listed below:

DW = Deepwater Development Program (includes FLT – Facilities Leadership Team; SCST: Standardization and Contract Strategy Team; and PST: Program Services Team)
TH = Thunder Horse
HO = Holstein Project
MD = Mad Dog Project
AT = Atlantis Project
MG = Mardi Gras Project
ANF = Atlantis North Flank

In addition, discipline identifiers to be used within the Atlantis project are listed below:

CM = Commercial
CP = Completions
DR = Drilling
FAC = Facilities
FS = Floating Systems
HSE = Health, Safety, Environment
HUC = Hook-Up and Commissioning
IN = Installation
OP = Operations
PM = Project Management
SC = Subsea
SS = Subsurface
TS = Topsides

The BP Project reference number for the Atlantis Project is 1440; the Technip project number for the Subsea portion of the project is 3478.

3.1.1 Goals and Objectives

The Subsea Systems Team goals and objectives are fully aligned with those of the overall Atlantis Project. These goals and objectives are partly expressed in the following:

Atlantis Project Business Goals

The primary business goal of the Atlantis project is to develop the oil and gas reserves discovered in the Atlantis fields in a safe, environmentally responsible, cost-effective and timely manner that maximizes the value to the Atlantis owners – BP and BHP Billiton.

Measures that will demonstrate success in achieving these goals are:

- Excellent HSE performance: no accidents, no harm to people, no damage to environment
- Development cost of less than $3.5 per barrel of oil equivalent relative to 2000 oil prices.
- Sustainable oil and gas production by 1Q, 2007
- High first year operability
- Pre-sanction by March 31, 2002
- BP sanction by December 1, 2002

Project Objectives and Drivers

Key project objectives have been derived from the business goals and are listed below to help drive decision-making. The overall driver for the project is to create value and the challenge to the Atlantis Project Team is to seek the right balance between the following objectives to maximize value:

- Schedule: Deliver production by 1Q, 2007 with high confidence.
- Schedule: Deliver production from ANF/DC3 by 3Q, 2007.
- CAPEX: Less than $3.50 per barrel for facilities and drilling costs relative to 2000 oil prices.
- Maximize first year operability and life cycle operating efficiency.
- Provide flexibility to deal with Atlantis reservoir uncertainty.
- Design for inherent health and safety.
- Utilize all Program synergies.
- Maximize delivery from wells at first oil.
- Provide step change in execution of safety performance.
- Establish operating phase strategies and metrics for life cycle performance.
- Design to minimize environmental impacts.

3.1.2 Project Mission

The Mission of the Atlantis Project is to plan, evaluate, design, engineer, procure, build, install and start-up a deepwater facility that can be safely and continuously operated to deliver oil and gas to the Mardi Gras Transportation System in an environmentally responsible manner. The project must meet Owner economic criteria that are impacted primarily by cost, time and production rates, and must meet product delivery specifications defined by the export systems. The project will also fulfill the expectations of "Getting HSE Right" (gHSEr).

3.1.3 "Subsea Team" Approach

The Atlantis Subsea Systems Team (SST) is committed to meeting the Project Goals and Objectives as described above most effectively by using a strong team approach, including and empowering not only BP Lead Engineers and Managers, but key representatives from the prime contractors. By building on the experience and past successes of each team member, we will employ these skills and tools to reach our primary Mission to design, engineer, procure, build, install and start-up the Atlantis Subsea equipment on time, on budget and in an environmentally responsible manner.

3.2 Management Philosophy

Current BP management systems and practices will be used to the fullest by the Atlantis Subsea Systems Team and will be exported to the extent possible to each of the prime contractors. These systems and practices include:

3.2.1 Capital Value Process (CVP)

BP has implemented a powerful management tool to plan, guide and document project decisions and considerations. The CVP includes the following major features:

- Planned stage gate dates (Select, Define and Execute)
- Risk and uncertainty assessments
- Peer reviews (Appraise, Select, Pre-sanction, Mid-term and Pre-startup)
- External Benchmarking
- Value improving practices

In addition to the CVP process, the BP Major Project Common Process (MPCP) was introduced in 1Q 2005 and will be implemented for the ANF/DC3 and follow on future Atlantis projects.

3.2.2 Continuous Improvement

BP's Continuous Improvement (CI) Process will be used by each of the project teams in the course of the work. The SST members will serve as facilitators at the team meetings of the prime contractors to implement this management technique or reinforce similar processes already in place.

3.2.3 Reward and Recognition

The BP system of Rewards and Recognition (R&R) has proven effective for the company as a whole and will benefit the Subsea Team and prime contractors as well. Superior performance and dedication is commended openly on a regular basis. Typically, tokens of appreciation will be given to commemorate team and individual contributions towards the completion of major or critical milestones.

3.2.4 Document Hierarchy

The following document hierarchy illustrates the management documents that will be used as tools for communicating internally and externally to the Atlantis Project Team:

- **Statement of Requirements (SOR)**, BP Document No. 1440-10-AS-DC-0001. The SOR is at the highest tier. It provides an overview of BP expectations from the Project Team and initiates the development of work and documentation to manage the project.
- **Design Basis (DB)**, BP Document No. 1440-30-SB-DC-0033. The DB defines what is to be built, is at the second tier of the hierarchy along with the Project Management Plan, Schedule and Organization Plan.
- **Project Management Plan**, BP Document No. 1440-10-PM-PR-0003. Contains the strategies for how to accomplish the project and the plans and procedures for processes that are common to all delivery teams of the project.
- **Project Schedule**, BP Document No. 1440-30-PC-SCH-0086. The overall Project Schedule organizes when the scope of work and deliverables need to be done and shows the dependencies of one delivery team on another.
- **Project Organization Plan**, refer to sections 3.3 through 3.6 of this document. The Project Organization Plan defines who is accountable for the work and how they relate to one another.

The documents in the third tier represent the level of detail needed by the Project Team and its contractors. These include:

- Design Criteria
- Project Execution Plans
- Detailed Schedules

- Organization Plans

3.3 Project Organization Plan

Project organization charts are presented in Attachment 1 – Atlantis Project Organization Charts. Both position titles and names of assigned individuals are shown. The following organization charts are included:

- Atlantis Subsea Project Team
- Atlantis Subsea Riser/Flowlines & Installation Team
- Atlantis Facilities Team
  - Atlantis Floating Systems Team (Team has been diluted and Chart Removed as PQ has been delivered effective 3Q 2006)
  - Atlantis Project Services Team (See Atlantis Project Team)
- Atlantis Leadership Team See Section 3.3.2

3.3.1 Project Organization Plan

The Atlantis Project is managed as a whole by the Integrated Project Team (IPT) that fully engages the talents of the people from the Owners and all the Contractors employed to design and execute the project. The philosophy of "best player plays" and open and honest communication should prevail within the team. An atmosphere of encouragement, inclusion and cooperation must emerge so that all team members are contributing their fullest effort toward achieving objectives that they both understand and agree with.

3.3.2 Atlantis Leadership Team (ALT)

The Atlantis Project General Manager and single point of accountability is Greg Sills. In addition to Greg Sills, the following individuals comprise the Atlantis Leadership Team:

Name	Designation
Dan Elmer	Commercial Manager
Mike Walters	Commercial Negotiator
Keith Mouton	HSSE Team Leader
Cynthia Hammer	Controller
Jill Harig	HR Advisor
Gary Imm	Deputy Project and Offshore Coordination Manager
Dirk Smit	Integration / Installation and Offshore Hook-up Project Manager
Rick Oneto	Operations Supervisor
Jon Sprague	Drilling and Completions Manager

Pramod Singh	Subsurface Manager
Bill Naseman	Project Services Manager
Gene Hall	Subsea Manager
Steve Pastor	Integration Installation Manager (Task Completed, Team Disband following delivery of PQ)
Terry Woods	Administrative Assistant
Charlene Shen	Atlantis Phase 2 (Including ANF/DC3) Project Manager
Donnie Carter	Engineering Authority

The Subsea Systems Delivery Manager for the Atlantis Project is Gene Hall who reports to Greg Sills, Project General Manager.

The Organization Chart for the ALT is also contained in Attachment 1. The organization chart for the Atlantis Flowlines and Riser Group chart is contained in Attachment1-1 and the ANF/DC3 chart is contained in attachment 1-2.

3.3.3 Subsea Systems Organization by Workscope

The Subsea Systems overall workscope consists broadly of the design and supply of all Subsea equipment identified in Section 1.2 – Scope of Work. This effort has been divided into several major workscopes as noted in Table 3.3-1 below. (This table illustrates the workscope of each team as the project moves through various project phases, i.e. from engineering to fabrication and through installation. Separate installation, commissioning and operational plans are discussed in Section 9.0.)

Table 3.3-1: SUBSEA TEAM WORKSCOPE RESPONSIBILITIES

Contractor / Subcontractor	Workscope Description
Technip Offshore, Inc. The major technical support to BP has been provided by Technip under the terms of a Frame Agreement (Well System Integration and Design Engineering Services Contract, No. BPA-00-01772) established in January, 2001. The scope of work specified in that contract includes:	Provide integration and design engineering support during all phases (Select, Define and Execute) of the project Integrated schedule, planning and progress reporting General administrative support Procurement support and material control Document control Quality assurance and control support Project procedures and administration Management of change support Cost estimating support Interface management HSE support Preparation of information as directed

Contractor / Subcontractor	Workscope Description
FMC Corporation	Detailed design – Subsea equipment Wellhead equipment Subsea tree systems Subsea manifold systems PLET assemblies Flowline jumper assemblies Subsea control system Topside controls equipment ROV docking and interface tooling
NEXANS	Umbilical Engineering and Fabrication
Subsea 7	Umbilical Installation
Sumitomo	Supplier for Flowlines And Riser Pipe
Granherne	Flow Assurance studies
Sonsub	ROV tooling & services
Fugro Survey services/Geoscience Earth and Marines Services	Geotechnical surveys
Global Sante Fe	Drilling, completion and subsea construction services
Heerema	Flowline & riser installation

The organization charts for the Atlantis Project, including key individuals from the prime contractors are included in Attachment 1.

Roles and Responsibilities[†]

The Subsea Team (SST), acting as the Subsea equipment general contractor, will provide the technical leadership and resources necessary to complete the work outlined in the SoR and individual equipment Functional Design Specifications (FDS). Within the SST, specific BP Lead Engineers will be assigned for each major discipline area. These Lead Engineers will be supported as required by Technip and FMC technical teams.

As the strategic link to the PQ Floating Systems (topsides and hull teams), the SST will provide the necessary interface information for all critical items. The BP Lead Engineers responsible for contracted work scope serve as the focal point for all aspects of the work being performed.

The prime contractors are responsible for the work identified by the scope of work of their respective contracts as it relates to the project. They are also responsible for subcontracts pertaining to the project where major interfaces or direct connections exist between their equipment and the specific subcontract. Prime contractors are chosen on the basis of their

[†] See Attachment 13 for ADC Specifics

technical and project management skills and their commitment to providing long-term service to the Atlantis project. They are accountable for the overall engineering, construction and testing of the various components defined by their contracted scopes of work.

Project Boundary Conditions

The following are boundary conditions or "givens" that each Atlantis Team needs to recognize and work within:

The BP Capital Value Process (CVP) will be used as a framework to organize the project into stages of work and deliverables necessary to make decisions to proceed from one stage to the next. This process is to seek alignment with BHP Billiton's Tollgate project management process. In addition to the CVP, the BP Major Project Common Process (MPCP) also applies.

The Owners will make economic decisions in compliance with their internal criteria, which for BP is GIAPPS.

The HSE objectives of the project will be achieved by vigorously implementing document management systems to meet the expectations in gHSEr.

A Plan of Development will be submitted to the partner, BHP Billiton, for approval. A plan for the ANF/DC3 development will also be submitted to the partner BHP Billiton for approval. In addition, a plan for ADC will be submitted for approval.

The Subsea Team will support preparation of required AFEs and will comply with them on approval.

Others will transport oil and gas production to market.

Project Offices And Facilities

The BP and Technip Subsea Team will be housed in the Energy Tower Building, 11700 Old Katy Road, Houston, TX.

Services for the BP Atlantis Subsea Project will be performed on the 4th and 5th floor of the Energy Tower Building and will include all necessary office space for the assigned BP and Technip Subsea Team.

Planning and administrative support services will be part of the overall project team. At contract award, all necessary floor plan layouts, computers, copying equipment and IT system services will be identified and ready for implementation. .

The office facilities will include the following:

- Each team member shall be provided with an office containing furniture consisting of a desk, desk chair, reference table, 2 guest chairs, book shelves, lockable file cabinet, whiteboard and telephone with voice mail.
- Conference room(s) available with table and chairs for 10-12 people with access to larger rooms when required.
- Kitchen facilities
- Contractor-supplied coffee and tea supplies
- Covered parking
- Photocopiers and paper supplies
- Dedicated fax machine
- LAN printers including access to color printer when required
- Access and use of building services

Support staff, including project secretaries, for BP will be provided by Technip per terms of the contract.

3.4 Correspondence

3.4.1 General

By definition, project communications is any written or electronic correspondence that includes letters, memos, facsimiles, e-mails and meeting minutes, both incoming and outgoing, on the project.

As the Atlantis Project progresses, the correspondence procedure is sufficiently flexible to change and/or expand to meet any changing needs of the project.

The objectives of the correspondence procedure are:

- Effectively manage the flow and storage of incoming and outgoing communications generated by the project.
- Provide consistent identification, capture, control and storage of pertinent documents.
- Provide an effective means to store and receive needed information throughout all phases of the project.

Subsea System Team Members are responsible for understanding the correspondence procedure and using the system. Team members are responsible for determining which correspondence should be filed and for assigning an appropriate file number.

3.4.2 Correspondence Approvals

The BP Subsea Delivery Manager or designated discipline lead will be responsible for approving all official outgoing correspondence. In an event of an absence from the Project Team, a signed Delegation of Authority memorandum will be on file.

3.4.3 Correspondence Numbering

A Correspondence Numbering Procedure has been developed to provide a consistent numbering system for the control of all communications received by, or generated during the progress of the Atlantis Project. Accordingly, all correspondence should be assigned numbers using the system described in the Technip Correspondence Numbering Procedure (3467-ST-PM-0004).

3.4.4 Correspondence Log

CorrCon is the database used to record (log) and track official project correspondence. The appropriate Delivery Team Project Secretary, upon instructions or receipt of project correspondence from the Project Team, will enter the appropriate data into CorrCon, ensuring that the log identifies documents by an assigned document number.

E-Mail

Technip's Lotus Notes Administrator has set up a project specific Lotus Notes Correspondence database into which all project related email shall be stored. In order to send email to this database, users must "forward" incoming e-mail and copy outgoing e-mail to address "3478". This action will result in outgoing and incoming e-mail then being placed in the "Unfiled" section of the database. Each team member is then responsible for ensuring the appropriate subfolder is selected for each email.

3.4.5 Correspondence Transmittals

Correspondence transmittals are obtained from the Project Secretary. These unique transmittal numbers are generated by the automatic logging and numbering database CorrCon.

3.4.6 Correspondence Distribution

All communications will be distributed according to the assigned code, logged into the correspondence database (CORRCON) and filed in the Project Files by the Project

Secretary. This process is described in the Technip Correspondence Numbering Procedure (Doc. No: 3467-ST-PM-0004).

3.4.7 Filing System

Project Secretaries are responsible for developing an appropriate Project File and ensuring that correspondence is being properly filed. Email correspondence filing is the responsibility of individual team members.

A Project File Index will be developed and maintained at the Program Level by the Project Administration Coordinator. Any changes to the Project File Index will be requested through the Project Administration Coordinator. Such changes will also be reflected in the Email File System as well.

3.5 Project Document Control

The Document Control Administrator is responsible for maintaining and updating the file system as pertains to technical documentation, ensuring that effective communications between other Atlantis Teams are properly distributed and filed. Document control procedures will be standardized across the Atlantis Project to provide continuity, uniformity and traceability of all documents through a common index system. Where possible, tagging and drawing block titles will be standardized across the project to facilitate rolling results into the completed file of "as-built" drawings.

The Subsea Systems Project Secretaries will establish and maintain a project distribution matrix to ensure that all Subsea equipment-related documentation is distributed to the appropriate project teams. All communication generated by the project team shall be distributed in accordance to the distribution code assigned by the owner of the correspondence. The distribution code will be provided on the distribution matrix to ensure that technical documents are properly identified and distributed to the required individuals by the Document Control Administrator.

3.6 Project Meetings

Meeting Minutes will be filed, distributed and maintained in the same manner as Project Correspondence. The Project Secretary will assign a unique indexing number to each Meeting Minutes document using the CORRCON database as described in Section 2.4.6. Meeting Minutes will be filed in the Project Files that are maintained by the Project Secretaries.

4.0 PROJECT MANAGEMENT - PROJECT CONTROLS

4.1 Project Controls Overview

This section addresses the strategy and processes the Subsea Systems Team (SST) will use to complete the assigned scopes of work in a timely, cost-effective manner so as to facilitate the scheduled progress of prime contractors and other project groups while having a positive impact on the overall project economics. The resources of the SST will be directed toward successful integration of the work with the other sub-project.

4.2 Scheduling

The Atlantis Subsea Systems Scheduler will be responsible for developing the Subsea Systems schedule using information and data from the respective discipline Lead Engineers. This schedule will include all core equipment development schedules and all relevant subcontractor schedules to achieve the following objectives:

- Integrate all Subsea Systems activities so that the work can be executed in a manner that optimizes project resources.
- Provide Project Managers and Lead Engineers with the information necessary to manage the project within the project milestones.
- Define an integrated baseline plan which is logically linked, duration-based and achievable within the project milestones.
- Provide information to the Project Managers to ensure that the work is being completed at or below the control budget.
- Provide a Level 3 schedule that integrates smoothly into the overall Atlantis Project schedule.

The Primavera Project Planner (P3EC), Version 4.2 scheduling software will be used by the Subsea Systems Scheduler. It is the responsibility of each Atlantis vendor to develop and update its individual work schedules to at least a Level 3 and report that regularly to the Subsea Systems Scheduler. Using the vendor schedules, Technip will be responsible for integrating all Subsea Systems-related schedules and reporting schedule status and performance against the Baseline Plan.

The Technip procedure for schedule development within the BP Deepwater Program will be AMI-PR-EP-0003, which includes Schedule Hierarchy, Schedule Development and Schedule Updating.

4.2.1 Schedule Hierarchy

Project Master Schedule (Level 1) -Management executive summary schedule of major activities for overall project status.

Project Summary Schedule (Level 2) –Project overview for project management and client review to include mid-level activities.

Project Coordinated Schedule (Level 3) – Overall project coordination schedule relative to the Baseline Plan.

Discipline Schedule (Level 4) - A tool for scheduling and progressing detailed work activities at the discipline / subcontractor level.

Detailed Work Activity Schedule (Level 5) - A tool for planning daily activities and the basis for calculating earned value at the discipline level.

4.2.2 Schedule Development

Schedules will be prepared using the project-approved WBS as the basis. The Subsea Systems schedule will be developed to include Level 5. All vendors and subcontractors shall provide their individual schedules to at least a Level 3 as a minimum.

The Subsea Systems Scheduler will integrate all subcontractor schedules into an overall project coordinated Level 3 schedule that will be submitted to BP for inclusion into the overall Atlantis Schedule.

*A separate ANF/DC3 schedule shall be developed and maintained and will be capable of integration into the overall Atlantis schedule.

4.2.3 Schedule Updating

Schedule updating will occur on a regular monthly cycle. The resulting updated Subsea Systems schedule will be a tool to identify potential areas of concern and permit timely action to avoid or mitigate their effects. The updated Subsea Systems schedule (Level 1) will become a part of the regular Subsea Systems Monthly Progress Report.

The Subsea System Project Scheduler will use the deliverables lists supplied by the discipline Lead Engineers as the basis to develop a Subsea Systems Project Schedule (Level 5) using the Primavera project scheduling software. This schedule will be used by the individual discipline Lead Engineers as one basis for measuring their progress (see

* See attachment 9 for ANF/DC3 specific requirements

Section 4.6 for additional Progress and Performance Measurement. The Subsea System schedule will also be integrated into the overall Atlantis Project Schedule (Attachment 5).

The major events and key milestones for the Atlantis DC1 Subsea System project are given in the following Table 4.2-1. A similar table 4.2-3 is included in attachment 9 to illustrate ANF/DC3 milestones.

Table 4.2-1
KEY SUBSEA SYSTEMS MILESTONES

Milestone or Event	Date
Complete Concept Development (Select Phase)	Dec 2001
Complete FEED (Define Phase)	Jul 2002
Start Execute Phase	Apr 2002
Start Subsea Equipment Fabrication	May 2002
Start Pre-Drilling Program	Feb 2004
Start SIT Testing	Jan 2005
PQ Offshore Hookup	Sept 2006
Install Subsea Equipment	Sept 2006
Install Flowlines & Risers	Jan 2007
Install Umbilicals	Dec 2007
Commission Subsea System	Feb 2007
Deterministic First Oil	1Q 2007
Sanction First Oil	1Q 2007

Attachment 5 contains a selection of schedules current with the revision date of this plan. Following the material/weld failure on the Thunderhorse manifolds which resulted in the Atlantis manifolds being recovered, the ADC was initiated. The latest schedule is included.

4.3 Estimating*

The initial cost estimates for the Subsea Systems budget were prepared during the early Select Phase of the project. Subsequent revisions were made in April, 2002 and the final Pre-Sanction budget estimate was submitted in October, 2002 and sanction approved in December 2002. Subsequent to this, major budget reviews occurred with a complete "bottoms up" analysis in June 2004, resulting in our current forecast. During each revision, updated equipment configurations and field architecture layouts were considered in detail.

* See attachment 9 for ANF/DC3 specific requirements

Each sector of the project is expected to produce high quality estimates to support the budgeting and cost development of their respective portion of the Deepwater Developments. All estimates shall follow the BP Cost Breakdown Structure Template. ANF/DC3 cost build up to pass the define gate by March 2006.

Hidden contingencies are not allowed. All estimates must be on a BP cost basis with contingency as a separate identified category. Contingency development and determination must be reviewed and approved by the appropriate Delivery Manager. Any reduction to established and agreed upon contingencies shall be documented and a history maintained for record purposes.

4.4 Project Services Plan / Cost Control and Forecasting*

(The current Atlantis Project Services Plan can be found in Document 1440-10-PM-PR-007 Rev. A.)

Cost management is a critical element within the overall responsibility of the Atlantis management team. Section 4.4.1 of this document outlines the CTR and employee timesheet process as a means of identifying and controlling Technip engineering costs. The responsibility for overall project costs is shared between the Subsea Systems team and other delivery teams (Hull, Topsides, etc.).

The ANF Single Well tie-back Project moved through the stage-gate from Select (Conceptual Engineering) to Define (Basic or Preliminary Engineering) in October 2005 as approved in the sanction document DWP-FM-2005-89. The current schedule indicates the end of 1Q2006 for Define to Execute stage-gate, and 4Q2007 for Execute to Operate stage-gate. The project scope was defined in the sanction document and this will form the baseline for project execution. To the extent possible, project services process and procedures already in place for Atlantis South will be used

BP has established a database that runs on the various networks and provides sufficient information to support generation of financial reports, forecasts, trend analyses, project budgets, and cash flows. These databases will generate reports that are linked in several useful ways to present current project cost information. CostMANAGER is a software application used to document, monitor and manage total project life cycle costs against work breakdown structure (WBS) numbers. Further this application is used to produce monthly reports that are provided to Atlantis partner, BHP.

* See attachment 9 for ANF/DC3 specific requirements

The Subsea Systems cost management system produces the following reports on a weekly and/or monthly basis as appropriate:

- Project Budget Projection
- Labor Detail Report
- Manhour, Progress and Productivity Report
- Labor Cost Curves
- Actual Cost to Date vs. Earned Value
- Forecast at Completion vs. Budget
- Invoice Support Data (labor and expenses)

Plans for HSE, Risk Management and Value Engineering, which play critical roles in cost control, are covered in Sections 2.0, 4.7 and 6.9 of this document.

4.4.1 Engineering Manhour Control

Personnel Assignment Approval Form (PAAF)

The Senior Cost Control Coordinator for the project will develop an appropriate PAAF form and system for recording all assigned personnel approved to work on the Atlantis Project. The PAAF form includes specific personnel data such as title and cost rate. Prior to any Technip staff working on the Subsea Systems project, an appropriate PAAF must be prepared then reviewed and approved by the BP Subsea Systems Delivery Manager.

As individual staff are approved and assigned to the Subsea Systems Team, a PAAF will be completed and approved, then added to the project PAAF register. The PAAF register will be submitted for BP approval.

The basic control means to be used by the Subsea Systems Team on Atlantis will be the "Cost, Time, Resource" (CTR) task planning form. Each discipline Lead Engineer will prepare CTRs that will define the specific workscope to be worked during each phase of the project and as approved by the BP Lead Engineer. The sum of the CTRs will represent the engineering budget for that phase of the project. The CTRs will be identified and numbered per the approved project Work Breakdown Structure (WBS), reference Attachment 4, and will divide each workscope into manageable and deliverable tasks. The completed CTRs will be reviewed and approved by the respective discipline Technip Lead Engineers, BP Leads and Technip Project Manager with final review and approval by the BP Subsea Systems Delivery Manager or BP Project Engineer.

The Technip Project Cost Coordinator will input the approved CTRs into the Project Manhour and Cost Control System by WBS number. This will establish the manhour base

for both the cost and schedule tracking. The WBS numbers, descriptions and start and finish dates will be downloaded to Primavera Project Planner (P3), Version 3.0 or P3e/c.

Using the CTRs, and in conjunction with the Project Manhour and Cost Control System, the Project Cost Coordinator, under the direction of the Technip Project Manager, will develop the engineering manhour planning sheets. This will be done using the start and finish dates on each CTR to allocate the manhours over the time frame of the work. These planning sheets will be the basis for specific project manhour and cost S-curves.

4.5 Change Control and Management of Change

The Subsea Systems Team will control any major changes in the Subsea equipment using the BP Change Control Procedure No. 1440-10-PM-PR-0255. The Change Management System will identify record, evaluate, control and document any major changes initiated by the BP or Technip Lead Engineers.

The Change Management System includes the following elements:

- Scope of change to be made
- Steps to implement the change
- Responsibilities, verification, measurement and feedback inputs
- Necessary forms to complete the process

4.6 Progress Measurement

Progress reporting by the Subsea Systems Team will be accomplished weekly by the individual discipline Lead Engineers, with these inputs being reviewed and integrated into the monthly Project Status Report. These reports will contain current status with identification of any technical, budget, schedule or other concerns.

The Subsea System Monthly Progress Report (Document 3478-XX-B-P-0055) will provide the current status of key cost, change, schedule, safety, quality, areas of concern and other information needed to keep BP and BHP Billiton appraised of the project status. It will also provide early warnings in all areas of concern that could impact either project cost or schedule.

Details of the Subsea Systems progress measurement are captured in Section 4.2.3, in particular, the Project Schedule (Level 5) and the monthly Document Progress Report.

The Subsea Team will make continuous use of several methods of measuring its progress and performance. Several of the activities noted above (Sections 4.2,4.3 and 4.4) will be used on a regular, scheduled basis. Other powerful means that will be used include:

- Weekly Status Meetings and Reports. Each week the Subsea Team will meet and report, by technical discipline, the status of the individual equipment areas. Each BP Lead Engineer or his/her representative will report on the prior week's achievements, current planned activities and any problems encountered. This forum will also be used to discuss critical interface issues. On a more formal basis, the Subsea Team and all project contractors will produce a Monthly Status Report that will document all noteworthy information for the month.

- Schedule Reviews and Updates. Each week the Subsea Scheduler will receive detailed schedule inputs from each discipline engineer that will be used to update the Subsea Project Schedule on a consistent and regular basis. As described in Section 3.6, this Primavera P3 – supported schedule will be produced with Levels 1 thru 5 detail, and also be integrated into the overall Atlantis Project Schedule produced by Mustang Engineering. The regular and detailed schedule reviews by the Lead Engineers ensures that timely and accurate scheduling information is available.

- Cost Management and Control. Using an established cost control system, the Subsea Team will have available monthly cost and labor reports to measure its progress and performance against planned objectives. These reports include:
  - Project Budget Projection
  - Labor Detail Report
  - Manhour, Progress and Productivity Report
  - Labor Cost Curves
  - Actual Cost to Date vs. Earned Value
  - Forecast at Completion vs. Budget
  - Invoice Support Data (labor, materials and expenses)

  These tools will enable each Lead Engineer to assess his / her team performance and make any necessary corrections on a timely basis.

- Labor Productivity Reports. A tool to measure individual or group performance that will be used by the Subsea Team are labor productivity reports. These will be generated on a weekly basis and will reflect the actual percent completed of a given task compared with the budgeted value of that task. This report will enable each BP Lead Engineer to report on his / her team's productivity on a weekly basis.

- Milestone/Benchmarking. The Subsea Team will use continuous Milestone Charting/Benchmarking to measure its progress toward our established goals. Milestone/Benchmarking will be the tool that provides a current snapshot of project

status compared with the original or other accepted goals. Once the Milestone/Benchmark has been established, Scorecarding will recognize the achievements against quantifiable goals. By using Milestone/Benchmarking to establish current relative status and Scorecarding to evaluate actual progress, the Subsea Team will have another dynamic tool capable of measuring progress.

4.7 Risk Assessment and Management

The Atlantis Subsea Project Team will deliver a safe facility to the Deepwater Development BU through the application of a structured approach to design safety, with the goal of achieving a step change in operational safety through the minimization of risks at the source and the effective management of the hazards that remain.

The Subsea Project Risk Management Plan (BP Document No. 1440-10-PM-PR-0005) outlines the process for identifying, assessing, monitoring and managing uncertainties that may affect Project results. The Subsea Team will manage Project Execution Risks, Major HSE Risks and Project Improvements (opportunities to change design, scope or execution that can increase the value of the Project).

The Subsea Project Team will manage all identified risks and focus effort and resources on the highest priority risks first, i.e. those that have the largest potential impact, are most likely to occur and are most manageable. Mitigation of these risks will be accomplished by activities such as: design reviews (HAZOPs, HAZIDs, Operability reviews), third party certification, factory acceptance testing, systems integration testing, NDT testing and quality plans and will be communicated to the engineers, designers, estimators and others involved in risk analysis to support their judgment in setting ranges on cost and schedule estimates. Other risks that must be addressed and managed by the Subsea Team are environmental, safety, weather and oceanographic risks.

The Predict!Risk Controller [software package] will be used to document and track Project risks, opportunities and recommendations that come out of Formal Safety Assessment activities. The Project Risk Register will be handed over to Operations prior to Project final closeout, at which time the Operations Risk Management Procedure will take effect.

4.7.1 Roles and Responsibilities

The Atlantis Subsea Delivery Team will be expected to identify risks and implement mitigation plans to eliminate the risk, reduce it to an acceptable level or provide a contingency in the budget or schedule. Each risk will have a team member assigned and accountable (the Risk Owner) to act on recommendations suggested by the delivery teams and to develop plans to eliminate or mitigate the risk to the proper level. Tracking risk

actions is the responsibility of each Delivery Team and will be delegated to the Risk Owner to expedite, monitor and report status on actions.

The Risk Owner is also responsible for preparing and monitoring the execution of the mitigation or contingency plan. The Team Risk Champion will coordinate updating the Risk Register and reviewing and reporting risk status for the Delivery Team.

The Subsea Team Risk Champions will be the HSE Coordinators and PS Change Risk Coordinator (reports to the Subsea Delivery Manager and the Project Services Lead). The Subsea Team Risk Champions facilitate risk management activities for the team. This is in addition to the Risk Management activities outlined in the Project Services PEP 1440-10-PM-PR-0007, Rev. A.

The Risk Champions promote the systematic capture of risks as they are identified by the team through the activities noted in Section 4.7 of this document and maintains the Risk Register for the team.

The Risk Champions will ensure that the Risk Management Process will satisfy the requirements of the Hazard Management Strategy, 1400-20-HS-RP-6000, C 072301.

4.7.2 Risk Management Process

The following Risk Management process will be used:

- Uncertainty Identification (HSE Hazards, Project Risks, Opportunities)
- Qualitative and Quantitative Assessment
- Risk Response (Mitigation & Contingency Plans)
- Actions
- Track, Reassess, Report (Continue Improvement)

Uncertainty Identification

The Delivery Team will seek out the experience of the other Deepwater Projects as a starting point for risk identification. Experience has shown that to deliver HSE performance on large, complex offshore projects within project cost and schedule constraints, the application of a robust HSE Hazard Management Strategy is required.

The Atlantis Subsea HSE risks will be identified and managed as described in the GoM Deepwater Development Program Hazard Management Strategy 1400-20-HS-RP-6000. A key part of the strategy is the application of Formal Safety Assessments as described in the Gulf Of Mexico Deepwater Development Program Formal Safety Assessment Guidelines

1400-20-HS-RP-6005. Assessment of the HSE Risks will be done using the criteria for the HSE Risk Assessment found in the Subsea HSE Plan 3478-BHS-RA-0001.

Qualitative and Quantitative Assessment

The Delivery Team will make a qualitative assessment of risks using expert judgment and/or hard data to evaluate the severity of the consequence, probability of occurrence and the degree of manageability. In order to risk rank the hazard scenarios, all Atlantis hazard analysis studies will utilize a Boston Matrix, Table 4.7-1, together with the risk ranking analysis criteria presented in Table 4.7-2 and Table 4.7-3.

Table 4.7-1: RISK ASSESSMENT MATRIX

Hazard Severity Category	FREQUENCY LEVEL (PROBABILITY)				
	A	B	C	D	E
I	1	1	1	2	3
II	1	1	2	3	4
III	1	3	4	4	4
IV	3	4	4	4	4

Risk Ranking Analysis Criteria:

Table 4.7-2: SEVERITY DEFINITIONS

	EXPECTED EVENT CONSEQUENCE
I	Loss of majority of the personnel on board Rapid impairment of TSA/Evacuation Facilities preventing safe, controlled evacuation Long term environmental damage affecting extensive area and prolonged clean-up (>20,000 bbls oil / chemical) Extensive facility damage, loss of asset
II	Single or multiple fatalities or severe injuries to workers in immediate vicinity of event Contained, life threatening health effects Long term environmental damage affecting limited area and prolonged clean-up (>5000 bbls oil / chemical) Major equipment damage, moderate business interruption

III	Single worker with onset of irreversible health effect or permanent disability Less severe injury to multiple workers Moderate environmental impact (>100 bbls oil or >1000 bbls chemical) Moderate equipment damage, minor business interruption
IV	Minor injury or reversible health effects to worker Minor environmental impact (any oil spill or 1 bbl chemical) Minor equipment damage

Table 4.7-3: FREQUENCY DEFINITIONS

Level	Descriptive Word	Definition
A	Frequent	Repeated occurrences could be expected in the life of the facility.
B	Probable	Several occurrences could be expected in the life of the facility.
C	Remote	Single occurrence is not necessarily expected at the facility, but could reasonably be expected at similar facility within the company during the facility lifetime.
D	Improbable	Single occurrence is not expected during the lifetime of company facilities, but could be expected once in the industry during the facility lifetime.
E	Highly Improbable	Scenario is unlikely to occur and is not known to have occurred elsewhere.

A Manageability Matrix will be used to illustrate the relative priority of Subsea Project risks, focus attention on the most important risks and report progress in reducing risk levels. The Matrix is consistent with the GoM DWD Risk Management Plan 1440-10-PM-PR-0005. A quantitative assessment of the execution risks will be conducted to determine needed project schedule and/or budget impacts. The quantitative assessment will justify the risk ranking and help the Team prioritize and plan responses.

Risk Response

The Risk Response is the Plan through which the team decides to adopt management of the identified risk. This plan consists of:

- An elimination plan that removes the risk entirely or
- a mitigation plan that reduces the risk to a manageable level, and
- a contingency plan that manages any residual risk.

Primary responses include avoidance, reduction, transfer, sharing and acceptance with contingency applied.

Actions

The Team will determine and implement actions resulting from the Risk Response. The Risk Champions will expedite and track progress on these actions.

Tracking

The Team Risk Champions will coordinate updating the Risk Register (Predict!Risk Controller) and reporting risk status for the Delivery Team.

Reassessment, Reporting and Continuous Improvement

Reassessment of Project Risks will be conducted by the Team to check progress with the mitigation plans for existing risks, identify new risks, and re-prioritize the list of most important risks. Reporting requirements include a periodic report on Project risks to the Subsea Manager and the Project Engineer. The Risk Management process will be reviewed periodically to ensure that it is working as expected and helping to manage the project.

4.8 Reporting Requirements

Major Contractors will be required to submit Progress Reports on a monthly basis. The general format shall be as follows:

1. Executive Summary
2. Health, Safety, Environmental and Resources
3. Progress Review, including technical issues
4. Manpower and Production Analysis
5. Cost Update Variance Analysis
6. Quality Assurance / Quality Control
7. Schedule Update and Variance Analysis
8. Areas of Concern

4.9 Invoicing

Invoicing will be in compliance with Contract No. BPA-00-01772. Technip will issue a monthly invoice to BP for all engineering and related services performed the previous month. It will include all required supporting documentation, including reference to the appropriate BP SAP PayKey number system.

The details in the Technip invoice will be in accordance with Exhibit "E" of the contract and will supply sufficient backup for audit purposes.

Other contractors to BP or subcontractors to frame agreement members will submit invoices as per the governing BP contract in place with BP Contractor.

5.0 QUALITY AND QUALITY PLAN

5.1 Quality Scope of Work

The Atlantis Project Team is committed to quality. Quality shall rank alongside schedule, cost, health, safety, and environment as primary project objectives. It is the goal of this project that each individual in every job function perform their job in accordance with project requirements and that they be personally committed to the concept of doing their job right, the first time, every time.

The objective policy of the Atlantis project is to have an effective, efficient, and auditable Quality Management System that is planned and developed in conjunction with each Company's (contractor, supplies, vendor and sub-supplier) management systems. Conformance of work to BP business practices, contract and regulatory requirements shall be determined on the basis of objective evidence of compliance with those requirements.

Objectives

The quality objectives of this project are to:

- Minimize quality related defects and rework;
- Document compliance with project requirements;
- Establish and maintain quality systems to ensure that all materials, products, services, and documentation are in conformance with all regulatory requirements, codes, specifications, drawings, etc;
- Eliminate unnecessary surveillance activities and unnecessary documentation;
- Provide a framework for verifying, reviewing, and evaluating the effectiveness of the Quality Management Systems;
- The principle "you get what you inspect, not what you expect" has been adopted for the project;
- Develop a long-term relationship with suppliers to create and establish trust and openness.

5.1.1 Process Improvement and Total Quality Assurance

Throughout the project development, the Subsea Team will employ a number of project-wide activities to ensure continuous progress and quality assurance. Where practical, these activities will be incorporated into the Subsea Schedule and will include:

- Risk Management Planning
- Management of Change (MOC)
- Project HSE Reviews (PHSER)

- Value Improvement Practices (VIPs)
- Cost Risk Evaluation (BRISK) Reviews
- Schedule Risk Evaluation
- Front End Loading (FEL) Assessments
- Internal and External Benchmarking
- Peer Assists and Peer Reviews
- Formal Safety Assessments (HAZID and HAZOP)
- Operability Reviews
- Lessons Learned Reviews

Note that the term "MOC", as used above, refers to management of changes that are deemed critical in the design/execution phases of the project (i.e., changes in field layout, equipment design, schedules, system interfaces, and contracts). It does not refer to the definition of MOC used in the BP Golden Rules of Safety. During all phases of work prior to the Atlantis platform becoming operational, the references in BP Golden Rules of Safety that concern changes in organizations, personnel or procedures are considered not to be applicable.

5.2 Quality Audits

An important element of the Quality Management System for this project involves the PMT assisting in the analysis, development, and implementation of project systems and procedures. This will be accomplished by monitoring and auditing the implementation of project and, where applicable, contractors'/suppliers' quality systems and procedures.

Project Audits will be completed on an as-needed basis. Corrective actions issued as a result of audits will be reviewed and monitored by the Atlantis Project Team. Unscheduled audits may be carried out with less formality, depending on time requirements and the scope of the audit. Primary responsibility for such audits lies with the QA Lead.

5.3 Inspection and Testing

All suppliers and their sub-suppliers are required to have a functional quality management system in place, which is based upon, or in accordance with, a recognized standard such as ISO 9000. Supplier quality requirements are referenced in procedure 1400-20-QA-SP-9001, Project Quality Assurance General Requirement in the procurement package.

The Project QA Lead shall be responsible for the following supplier QA surveillance activities:

- Conducting pre-award assessments

- Conducting quality audits during the execution of the scope of work
- Assessing the level and expertise of inspection personnel to implement surveillance activities
- Monitoring work execution, inspection and testing
- Identification and closeout of corrective action, concerns and issues noted during the execution of the work

The level of Quality Surveillance Inspection during manufacture and/or fabrication of materials and equipment for the project are governed by:

- A criticality rating process which considers:
  - Level of safety, operability, and financial consequences and
  - Probability factors, including design and manufacturing complexity
- Items on the critical path for the project, which, if subject to delays due to rework, could impact sequencing of follow on work
- An inspection philosophy modeled after API 6A, PSL3 quality matrix

The Project QA Lead will coordinate the management of Third Party Surveillance and inspection activities.

5.4 Corrective Action Process

Corrective action processes for major contractors and subcontractors shall be in accordance with Technip Quality Program Plan, 3467-BQA-PA-0001, which discusses Project non-conformance and corrective action, or as separately agreed between the Parties.

5.5 Quality Records

Retention of Quality Records is addressed in each work package release and in industry standards, such as API, and is deliverable as listed in the Master Document List included with each supplier's contract.

5.6 Reporting

Critical Process Review

The responsible BP Lead Engineer and BP QA/QC Lead Engineer will review and approve Contractor procedures for its QA/QC plan and all critical processes used during the equipment fabrication process. Such process would include forging/casting of raw materials, welding and coating procedures, repair procedures and all NDE operations.

Non-Conformance Review

The responsible BP Lead Engineer and BP QA/QC Lead Engineer will review all Non-Conformance Reports regarding his/her equipment area generated by the Contractor, QA/QC, or any other surveillance personnel and approve any dispensation of the non-conforming item. In the interest of efficiency, BP QA Lead may elect to identify and review only types of NCRs deemed "critical" to the design or fabrication process, if agreed with supplier and BP Lead Engineer prior to the start of equipment fabrication.

Suppliers are required to submit, for review and approval by the designated Atlantis Project Team members and the project QA Lead, the following documentation:

- Quality Plans and a listing of associated Quality Assurance and Control procedures to ensure that product is produced, inspected, and installed in accordance with applicable contract requirements, specifications and standards.
- Inspection and Test plans (ITP) are required to be submitted by suppliers providing critical components and contractors involved in field or shop fabrication of the work.
- The aforementioned Quality and Inspection and Test plans shall be submitted to Company for approval, and where designated, review meetings shall be scheduled with Company, Atlantis project QA, contractors, suppliers, Third Party and Classification Society Personnel to identify surveillance interfaces and to expedite the document review and approval process.

5.7 Quality Assurance Plan

The Project Quality Plan (PQP), Document No. 3467-BQA-PA-0001 (BP Document No. 1400-30-QA-PR-0002) defines the quality requirements for the Atlantis project, and provides all project team members with documented information on the Quality Management System applicable to this project. Project personnel, through adherence to the PQP, Company requirements, project procedures, and the supporting Work Methods and Work Instructions, shall adhere to the policies, philosophies, and business practices described in the Project Quality Plan. The Project Quality Plan addresses the following areas:

- Project Quality Objectives
- Project and Quality Organization and Responsibilities
- Project Quality System Documentation
- Quality Assurance of Project Work Scope Activities
- Personnel Training and Awareness
- Project Quality Management System Audits and Corrective action Process
- Supplier Quality Surveillance and Inspection
- Supplier Noncompliance and Corrective action process

- Project Quality Status and Reporting

6.0 TECHNICAL MANAGEMENT PLAN - ENGINEERING CONTROL

Technical Management of the Subsea System equipment workscope is the joint responsibility of BP and its associated Prime Contractors. In the case of the Subsea Systems, the Prime Contractors are Technip, FMC, NEXANS and the flowline/riser fabrication and installation contractor(s). These groups support the BP Subsea Delivery Manager in each of the major equipment and services areas identified in Section 1.2.

The BP Subsea System Delivery Manager is supported directly by individual BP Lead Engineers who in turn are supported by a designated engineering team provided by Technip (see Attachment 1).

6.1 Engineering Scope of Work

The Engineering Scope of Work has been captured in Section 1.2 of this document. The management of this scope of work will be as described below.

The Subsea System BP technical management effort is guided on a day-to-day basis by the BP Project Engineer who reports directly to the BP Subsea Delivery Manager. The BP Project Engineer has the following roles and responsibilities:

- Responsible for coordination of project controls including schedule
- Coordinate the activities of the Discipline Lead Engineers.
- Recommend and help discipline leads to obtain technical resources to support the technical development of the project.
- Establish work priorities between the discipline areas, in conjunction with the BP Subsea Delivery Manager.
- Facilitate appropriate meetings within the Subsea Team disciplines and between other Atlantis technical groups.
- Report technical progress and/or concerns to the BP Subsea Delivery Manager.
- Assist in resolving technical issues that arise during the course of the project, including interface issues between disciplines.
- Ensure that technical decisions are properly planned, supported, documented and acted on in a technically responsible and timely manner.
- Providing Project ServicesTeam with timely inputs as required on a monthly basis.

<u>BP Lead Engineers</u>

Table 6.1-1 below shows each Discipline Lead position and assigned individual and the Subsea system workscope which fall under each lead's responsibility:

Table 6.1 – 1: DISCIPLINE LEAD POSITION AND RESPONSIBLE INDIVIDUAL

Discipline Lead Position	Responsible Individual
Well Systems Project Engineer	Ryan Malone / Charlos Ward
Well Systems Installation Manager	John Hughes
Subsea Tree Lead	Rick Weber
Umbilical Lead	Benny Kirkham
QA/QC Lead	George Huntoon
Controls/IWOCS Lead	Doyle Hickok / David Whitehead
Well Systems/ROV Support Lead	John Hughes
Special Projects	Bob Herrmann
Project Services Administrator	Stephen Brady
Flowline/Riser Lead	Otto Granhaug
MANTIS Lead (manifolds, jumpers, PLETS)	Larry Douglas
Installation Consultant	David Sorrel
Interface Coordinator	Chuck Horn
HSE Coordinator	Rick Sloan/Jim Kruger
Subsea Team Risk Champions	Rick Sloan/Jim Kruger

Each Lead Engineer will be responsible for providing guidance to his/her discipline engineering team through all stages of engineering design. The intent is to effectively communicate BP's technical requirements for the engineering design work on an ongoing basis, utilizing a team approach. This method should prove more effective than the traditional approach where the contractor does its work in isolation until a major milestone is reached, then hands it over to the Company for review. The above Discipline Leads have the following roles and responsibilities:

- Responsible for controlling budgets and schedules as approved by the BP Delivery Manager (and reporting any changes to the Project Services Team.)
- Review Contractor's work to ensure that the equipment designs and developments meet project requirements as defined by regulatory agencies, Certification Authorities, project specifications, industry standards and recommended practices, and BP's general company standards.
- Provide technical expertise (in a proactive manner) to other Atlantis groups responsible for the prime contract deliverables and services. Such expertise shall include the resolution of technical issues and the development of detailed interfaces.

- Provide technical assistance to the Contractor's engineering teams as appropriate. Work directly with other area technical groups (Hull, Topsides, etc.) to resolve technical issues and develop technical interface solutions in a proactive manner.
- Provide system level engineering, technical assistance and operational input to the Contractor's engineering teams as appropriate.
- Assist other project teams to develop solutions to issues involving tradeoffs between technical and commercial issues.
- Report Contractor's technical progress to Subsea Systems Delivery Manager on a weekly basis and to Atlantis Leadership Team as directed.
- Ensure utilization and transfer of existing BP technology to Atlantis equipment as appropriate.
- Review, comment and approve all project deliverables produced by Contractors.
- Ensure delivered documents bear a BP document number in the required format and that the appropriate equipment item tag numbers are assigned.
- Prepare, with the assistance of Technip and FMC, the Installation, Maintenance and Operating Manuals containing detailed information and procedures for offshore operations.
- Facilitate technical buy-in of other project teams as needed to effectively communicate key design decisions, including the organizing and conducting of discipline Peer Reviews.

Limits of Authority

The Subsea Systems Team is a dedicated resource group set up primarily to execute the design, fabrication, testing and installation of all Subsea equipment identified in Section 1.2. Each BP Lead Engineer shall be supported by the technical staff provided by Technip, supplemented when necessary by other Contractor engineering staff.

The Subsea Systems Team has no authority to issue instructions to other Atlantis teams (e.g., Hull, Topsides, etc.) or outside Contractors not associated with the provision of Subsea equipment. All matters concerning contractual items should be brought to the attention of BP's Project Commercial Manager or Procurement group by the BP Project Engineer, Subsea Delivery Manager or Subsea Project Services Lead.

Additional Resources

Each BP Lead Engineer has the responsibility to perform his/her duties as outlined above and shall have the necessary Technip technical resources to accomplish these tasks. In the event additional resources are necessary, the Lead Engineer shall request these resources as required.

The Lead Engineer may also request additional technical resources required to evaluate specific technical areas in which he/her may not be fully qualified to perform. In particular, specialists from BP's Exploration and Production Technology Group (EPTG) may be called in when necessary.

6.2 Design Criteria Document

Conceptual Design (Define Phase)

Each BP Lead Engineer will review the concept design layouts as they are produced by Technip to ensure that the conceptual designs conform to BP requirements as stipulated in the Statement of Requirements (SoR) and other BP requirements for deepwater offshore operation. The BP Lead Engineer will participate in the formal design review of the conceptual engineering layouts.

The BP Lead Engineer will consult with all other appropriate Atlantis teams (Hull, Topsides, Drilling, Completions, etc.) to keep them fully informed concerning the relevant design and interface issues. It is important to have all teams buy-in to the designs at the conceptual stage to reduce the probability of major design revisions during later phases of the project.

Detailed Design (Execute Phase)[†]

The BP Lead Engineer will work with their respective discipline engineering groups in the development and review of detailed designs. All detailed designs will be performed by the designated prime contractor personnel. For example, all Subsea tree, manifold, and controls detailed designs will be performed by FMC, while jumpers and PLETs will be fabricated by Porter Services. Similarly, other subsea-related equipment such as umbilicals and ROV tooling will be detail designed by the respective prime contractors after they have been selected. Riser and Flowline detailed design will be done by Technip.

The BP Lead Engineers will participate in all formal design reviews and ensure that the equipment designs fully meet BP's requirements and specifications. The Lead Engineer will review, comment on, and approve all project deliverable technical documents produced during the detail design stage as applicable to his/her area of responsibility. The required documents (CDRL) will be listed in the equipment functional design specification (FDS).

Design Data Book

[†] See attachment 13 for ADC specific requirements

The Contractor's Design Data Book will include a Design Summary Document defining the design basis for the equipment and all supporting engineering design documentation required to demonstrate that the design conforms to the agreed Functional Design Specifications (FDS), SoR and Design Basis Document (DBD).

Each BP Lead Engineer will review and approve his/her section of the Design Data Book prior to submittal of the document to other Atlantis project groups or the Certification Authority.

As-Built Documentation

The Lead Engineer for each discipline area will ensure that all technical documentation is updated to reflect the as-built condition of the equipment prior to deployment to the field.

6.3 Engineering Deliverables Numbering System

All engineering documents are to be identified by a unique document number and a revision level. This shall include reports, studies, list, bills of materials (BOMs), data sheets, criteria, specifications, evaluations, etc. The numbering system including revision levels shall be in accordance with the Project Document Numbering Guideline (1400-10-AD-PR-0212) and the Technip Project Engineering/Technical Document Numbering System (3467-ST-PM-0001).

6.4 Engineering Deliverables Preparation

The deliverables that are specified on each CTR will be the basis for developing the deliverables list that will be used for calculating progress (see Section 3.11). The deliverables will be weighted by the discipline Lead Engineer based on manhours and specific "milestone chains" will be prepared for each deliverable.

6.5 Mechanical Equipment Numbering

The field architecture numbering system is as shown on drawing Field Architecture with Equipment Designations (Technip doc. No. 2478-BSB-DC-0227, BP Doc. No. 1440-30-SB-DG-0051-001). The number system is based on using the manifolds as the central geometric starting point and the labeling system shall by its designation describe the location of the component is a logical fashion. By understanding the labeling system, an ROV operator should be able to find the ROVs location by referencing a component label at DC1. The first manifold "1" is north of the center and subsequent manifolds north of "1" are odd numbers. Manifolds south of "1" are even numbers beginning with "2". Trees are labeled with letters A through D clockwise as shown. Each tree is labeled based on the manifold it is attached to and the letter position relative to the manifold. Each tree jumper is

then labeled as to whether it is a test jumper or production jumper "T" and "P" respectively. As shown, "3AP" is a production jumper between manifold "3" and tree "3A". Since the manifold number is "3", intuitively it is the second manifold north of the center.

Flowlines are labeled P1, P2, P3, P, T and W2. P1, P2 and P3 are east of the manifold centerline. P, T and W2 are west of the manifold centerline. P flowlines are production, T is a test flowline and W flowlines are water injection. Flowline PLETs are labeled the same as the flowline. Hydraulic and electric umbilicals are labeled H and E respectively with a number designation. Even numbers are east of the manifolds centerline and odd numbers are west of the manifold centerline. Umbilical Terminations are labeled the same as the umbilicals.

PLET Jumpers are labeled by combining the two components connected. "2-P2" is the PLET jumper from manifold 2 to PLET P2. Flying leads are labeled in a similar way. Hydraulic flying leads are labeled beginning with the hydraulic termination unit first and the component to be connected second. For example, "H2-4B" is a hydraulic flying lead from umbilical termination unit H2 to tree B on manifold 4. Electrical flying leads are the same, with an addition of "EC1 or EC2" referencing the specific tree connector since each tree has two electric flying leads.

6.6 Engineering Design Symbols

All Technip Design/Drafting work complies with company standards AEI-WW-DD-0001, 0004, 0005, 0006, 0007, 0008, 0009, 0010, 0012, 0013 and 0014.

Other governing Engineering documents complied with are API-6A, API-17D, API-17A and ANSI Y14.5 which dictates specific dimensioning and tolerancing of critically detailed parts.

Engineering Design Symbols are in accordance with Internal Standard Association (ISA).

6.7 Design Reviews[†]

Informal technical review meetings will be held within each discipline Subsea Systems group on an as-needed basis, depending upon the level of work completed. More formal design reviews will be held at intervals defined in the Subsea Systems Project Schedule and Quality Plan. In general, these meetings will be held at the completion of the conceptual design (Select Phase), at the completion of the FEED (Define Phase), and mid-way and at the end of the detail design (Execute Engineering Phase). Reviews will also be conducted to ensure the design will address the issues of the Hazard Identification (HAZID) study, Hazard and Operability (HAZOP) review and standards and regulations of the cognizant

[†] See attachment 13 for ADC specific requirements

federal authorities such as MMS and ABS. Additionally, individual discipline Peer Reviews will be held as established by the BP Lead Engineers.

Design Revisions

Each BP Lead Engineer will review his/her respective discipline equipment design revisions to ensure that all revisions are incorporated as agreed by BP, and meet BP's requirements and the requirements stipulated in the Subsea Systems SoR and DBD. The Leads should also ensure that the Contractor's internal procedures for design revision are being followed.

The Lead Engineer will also review all design revisions for possible impact on interfacing equipment and ensure that revised design documents are distributed to all affected project teams with the assistance of the Document Controller.

Design Decision Log

Each BP Lead Engineer will ensure that his/her input to the Subsea Systems Design Decision Log is consistent and accurate. All significant technical or design decisions that are made and agreed upon during the design stages of the project shall be included in the Design Decision Log. The Decision Log is kept and maintained by the Technip Project Manager.

The integrated Design Decision Log should be distributed for review and information to the full Subsea Systems Team on a regular monthly basis.

6.8 Best Practices

The BP Lead Engineers shall work closely with each Contractor engineering team to implement Best Practices activities into the project. These activities will include but not be limited to:

- Capital Value Process (CVP)
- Major Project Common Process (MPCP)
- Management of Change (MOC) Process
- Value Improvement Practices (VIP)
- Benchmarking with other deepwater projects
- Periodic HAZID / HAZOP Assessments
- Peer Reviews
- Operability Reviews
- Assurance Reviews
- Project HSE Reviews (PHSER)

- Lessons Learned from other deepwater projects

6.9 Value Engineering Plan

The Atlantis Subsea team's plan for Value Engineering is simple and straightforward:

1. Capture Value Engineering activities conducted. Demonstration of these activities is required as described in the Capital Value Process (CVP). It is necessary to demonstrate such activities to pass through various project gates.
2. Continuously challenge all aspects of the Project through the design, manufacturing and other phases, looking for opportunities to remove unnecessary components or to reduce costs etc.
3. Value Engineering Results shall be captured in the Value Engineering Log. It is the responsibility of discipline leads and other team members to provide examples of these activities to the Project Secretary who will keep the file up-to-date.

6.9.1 Purpose

The main purpose of Value Engineering for the Atlantis Subsea Systems Team is to minimize life cycle costs and eliminate unnecessary or redundant systems/components. Specifically, identifiable up front capital costs should be weighed against less defined operating and maintenance costs. In addition, Value Engineering and the effect of the chosen option on the Quality Plan should be considered along with the potential effect on various internal and external interfaces.

Throughout the design phase, each system and component should be scrutinized with questions such as:

- Is this component required?
- Why is it required or not required?
- What are the risks if we eliminate this component?
- Is there a simpler, less expensive alternate to replace this component?
- What is the Life Cycle cost of this system and its alternates?
- What is the effect of changing this component on other systems?
- What is the net effect of this change on overall project economics?

6.9.2 Identification Of Issues

For the purposes of Subsea Systems Value Engineering, the identification of issues could include engineered components or the value of up front engineering versus savings at a later date.

A good process to initiate Value Engineering would include:

- Define the scope of the component or system to be analyzed.
- Identify the desired outcome upon completion of the effort.
- Identify any information required for the analysis.
- Identify limits to help maintain the focus of the analysis.
- Perform cross-discipline reviews as required.

6.9.3 Roles and Responsibilities*

The BP Project Engineer, with assistance from the Lead Engineers and equipment Contractors, will identify and initiate issues that may benefit from Value Engineering. All technical evaluations should include reviews by the Lead Engineers, Technip engineers, Contractor staff and Third Party specialists or Consultants when appropriate.

Often there are cost implications associated with Value Engineering. To assist this effort, the specific equipment Contractor shall gather all associated design, fabrication and testing costs to establish a cost baseline for Value Engineering analysis. The BP Project Engineer should direct this effort as it pertains to their equipment.

6.9.4 Methodology

The following methodology is a suggested approach. Each Subsea Systems Lead Engineer may modify this method to suit individual cases

For all changes or additions, challenge the need and identify options. If design or procurement is being initiated on an item or system that was not detailed earlier, identify, evaluate and consider all options.

In general, ask the questions listed in Section 6.9.1. Interface meetings should be arranged with the appropriate groups to evaluate the proposed changes or additions and the philosophy behind the proposed change.

<u>For Life Cycle costs:</u>

- Determine the capital costs and years of expenditure.
- Determine the periodic operating costs and years of expenditure.
- Determine the risk associated with each cost.
- Perform economic model analyses.
- Make a decision if the base design or an alternative case is the best solution.

---

* See Attachment 9 for ANF/DC3 specific requirements

6.9.5 Implementation

After a Value Engineering analysis has been performed and documented, further actions may be taken as appropriate to implement any required changes. If the magnitude of the proposed change warrants, a Management of Change (MOC) process should be initiated (reference MOC Procedure 1440-10-PM-PR-0255, Rev 2).

Example:

During the preliminary engineering phase of Atlantis, the Subsea Systems Team carefully considered the preferred configuration of the Subsea production and water injection trees. During this Value Engineering process, the team evaluated a large number of technical, operational and cost issues related to the tree configuration. As a result, the horizontal tree configuration was selected as the most economical and technically preferred for Atlantis.

In the Value Engineering analysis, an economic evaluation was performed to determine the preferred configuration based on inputs from considering several drilling, completion and workover scenarios.

In refining the basic tree configuration, a dual hub tree configuration was selected. Dual hubs enabled all electro-hydraulically actuated valves to be moved from the Subsea manifolds to the tree. This decision significantly reduced costs by eliminating any control requirements for the manifold, increased reliability by moving potential failure points from the manifold to the more easily retrieved tree, and simply reducing the number of relatively costly actuated valves.

Additionally, the dual hub configuration improves flow assurance by providing a circulation path to permit dead oil displacement of the well jumpers and a circulation path for hot oil warm-up prior to well startup.

All of these options were carefully considered during a focused Value Engineering effort by the Subsea Systems Team.

6.10 Design Freeze Log

A Design Freeze Log is maintained by the project. When items reach design completion, these items are considered frozen and as such, these items will then be considered to be controlled by the MOC process.

In some cases, rolling or stepwise design freezes will be considered while approaching total project design freeze. Design freeze milestones will be introduced to the project schedule when design freeze dates are agreed.

The project will maintain an Atlantis Design Freeze Register and issue Design Freeze posters from time to time.

6.11 Areas of Concern - Critical Issues

Areas of Concern are captured in monthly reports produced by the vendors and Technip. The red, yellow and green color-coding system is used to flag issues by criticality. The top three areas of concern for the Subsea Team are tabulated in the Subsea Section of the highest level Atlantis Monthly Report that is produced by the Atlantis Project Services Group.

7.0 INTERFACE MANAGEMENT

7.1 Interface Management Overview

An Interface Management System will be used by the Subsea Systems Team and all prime contractors to record, track and report the status of any interfaces that are identified between their equipment area and any other Atlantis Project Team or contractor's team. Each prime contractor will use a similar system to track their internal interfaces, especially with their subcontractors and major suppliers.

The Interface Management System provides the mechanism for the orderly transfer of information between the contractors and other groups associated with the project. Used properly, the interface system will not create a bottleneck in the flow of information but will prevent costly omissions and oversights. Given the large number and complexity of the Atlantis Project equipment systems, the Interface Management system is essential for tracking the various interfaces and providing a proactive approach to solving the problems.

The Atlantis Subsea Team Interface Coordinator will be responsible for managing all interfaces relating to the Subsea Systems scope of work. The Atlantis Interface Management Plan (1440-10-AD-MA-001, Rev B) describes the interface process in detail. The Plan includes the following interfaces:

- Interproject Interfaces
- Intraproject Interfaces
- External Interfaces (e.g. with subcontractors)

7.2 Interface Management Scope and Objectives

The Interface Management Plan consists of 3 major parts:

A. Interface Responsibility Matrix
B. Interface Query
C. Interface Log

The Interface Responsibility Matrix identifies the various owners of information throughout the project life.

The Interface Query identifies requested information, actions to produce information, documents required to define information, criticality, requestor, respondent, date needed, cost and schedule impact.

The Interface Log records and tracks queries and results. The Interface Log is used to prepare the Interface Report section within the monthly Subsea Project Status Report.

7.3 Basic Tenets of the Interface Management System

The individual BP Lead Engineers and Technip engineers should provide the individual interface item inputs into the system. An interface query will be recorded whenever design data or information must be requested from another contractor or subcontractor. In addition, interface queries will be used to bring operational or schedule related issues to the attention of BP whenever appropriate.

The Interface Query process is described as follows:

- Interface initiator completes Interface Query form
- Interface Query form submitted to Interface Coordinator to be logged in Interface Log
- Interface Coordinator forwards Interface Query to actionable respondent as determined by the Interface Coordinator
- Actionable respondent completes query form and returns to Interface Coordinator
- Interface Coordinator closes query upon satisfactory response and updates Interface Log
- Interface Coordinator issues monthly Interface Log status document through Document Control to appropriate Lead Engineers and contractors

Once parties agree that an interface issue may be closed and closing signatures are appended to the detailed query form, a formal Query package shall be released through Document Control.

8.0 PROCUREMENT AND PROCUREMENT PLAN*

8.1 Procurement Scope of Work

BP Supplier Contract Management (SCM) personnel, supported by assigned Technip staff, shall be responsible for executing the procurement procedures in accordance with BP GoM Deepwater Project Execution Plan (1440-30-PU-MA-0031). This procurement and materials plan provides guidance for the processes, functions, management and system for procurement activities.

The responsible BP Lead Engineer for the individual equipment areas will review, comment and approve all assembly level Bills of Materials, Procurement Specifications, Component Data Sheets and Work Package Releases prior to the release of these documents for procurement actions.

The Atlantis SCM team will meet the procurement goals and objectives by focusing its efforts in the following major areas:

- Ensure that all equipment, materials and services are purchased at the lowest acceptable cost from approved worldwide suppliers who have demonstrated commercial and technical capabilities with consistently timely deliveries.
- Take overall responsibility for cost, quality and delivery of purchased equipment, materials and services.
- Where possible, make use of global sourcing networks and frame agreements.
- Ensure that key project procurement staff is recruited from the most experienced technical and commercial personnel available.
- Manage the projects to comply with all BP GoM Deepwater Development requirements.
- Work closely with the BP Discipline Lead Engineers to ensure the best technical information is being used during procurement activities.

8.2 Procurement Document and Material Control

The Atlantis Project Wells Systems / Subsea Procurement Execution Plan (1440-30-PU-MA-0031, 3478-BRO-PA-001, Rev. 2) contains full information and the tools for conducting all activities associated with procurement. (This Procurement Execution Plan is sometimes referred to as the Procurement Tool Kit.)

The BP Lead Engineers shall be responsible for identifying all key equipment, materials and services to be purchased for the project. Additional services may be required of the BP

* See Attachment 9 for ANF/DC3 specific requirements

Lead Engineer such as providing a scope of work and supply for specific equipment or services, providing suggested bidders or suppliers, and providing proposed logistics for identified items.

8.3 Request for Quotations, Work Package Release and Requisitions

The responsible BP Lead or Project Engineer initiates / completes the appropriate documentation as per the examples contained in the Procurement Execution Plan:

A. Frame Agreement Project Release Procurement
   A-1. Frame Agreement Instructions
   A-2. Change Orders for Frame Agreement
B. Purchase Orders
   B-1. Purchase Order Instructions
   B-2. Change Orders for Purchase Orders
C. Requisitions
D. Provisional Acceptance Notices (PAN)
E. Request for Quotations
F. Contracts
G. Appendix
   G-1. Supplier Management System / Document Management – Adding / Modifying a Contract (New SMS)
   G-2. Standard Safety Questionnaire (SSQ)

8.4 Bid Receipt and Evaluation

Purchasing will monitor bidders for timely submittal of bid responses. Following receipt, technical and commercial reviews will be made of the bids. Discussions will be held with vendors, as necessary. Attention will be paid to the conformance with technical specifications, project schedules and assurance of cost in accordance with established agreements.

A complete and consolidated recommendation will be prepared and presented for BP review.

8.5 Purchase Order Award

Final review meetings will be held with purchasing, engineering and vendors, to validate all aspects of the approved commitment. Purchase Orders will be written to record the terms of the Agreement.

8.6 Post Award Administration

To ensure proper implementation of awarded orders, the Purchasing group will administer Purchase Orders and associated activities after award.

8.7 Procurement Close Out Requirements

Purchasing will ensure that a procedure is in place, at contractor or vendor location, to ensure proper close out of project purchase orders.

9.0 CONSTRUCTION PLAN*

The Construction Plan is comprised of the following.

Subsea equipment manufactured by the selected vendors will be inspected and tested prior to being made ready for factory acceptance testing (FAT). Written plans will be produced to cover these and other associated activities, and shall be formatted in a manner to capture test results and other information.

Factory Acceptance Testing and Extended Factory Acceptance Testing Plan

The individual Subsea equipment Contractors shall prepare timely FAT and EFAT test procedures that test all critical functions of their equipment to ensure the equipment meets all relevant BP requirements, industry specifications, functional design specifications, detail design specifications and is fit for purpose in all respects. The responsible BP Lead Engineer will review and approve all Contractor test procedures to verify the equipment's acceptability. He/she will ensure that all test procedures (FAT, EFAT) are suitable for verifying the completeness of the work and that procedures include acceptance criteria consistent with the equipment specifications. These procedures will also be reviewed by the BP QA/QC Lead Engineer.

Systems Integration Test (SIT) Plan

The Subsea Systems' SIT will be jointly planned by the BP Lead Engineers, Technip Leads and the Contractor team. The detailed SIT plan and procedures will be prepared by the specific equipment Contractor with technical input from BP and Technip and approved by BP Leads as appropriate.

The SIT shall serve as verification of component compatibility and fit-up and confirm proper operation of the combined deepwater equipment. In addition, ROV interfacing shall be simulated to verify accessibility and workability. Results of the SIT will determine if any equipment modifications are necessary prior to final assembly in the field.

The SIT will provide an opportunity for review and evaluation of operating procedures, maintenance and inspection procedures, installation procedures and emergency / contingency procedures. The SIT shall also provide the opportunity for training operating personnel and offshore installation personnel.

Equipment and Other Data

* See Attachment 9 for ANF/DC3 and attachment 13 for ADC specific requirements

During project engineering, equipment fabrication and testing, many documents are produced which include the following:

Job Data Books

The requirements for the Contractors to provide Job Data Books are specified in the Atlantis Quality Plan (3478-BQA-PA-0001) and the individual equipment Functional Design Specifications (FDS). Such documents will be delivered as specifically defined in the Contractor Data Requirements document (1440-10-1M-PR-0231). Basically, the Subsea Systems Job Data Books include the following major documents:

- Design Data Books
- Manufacturing Data Books
- Installation & Operation Manuals
- Maintenance & Repair Manuals

Design Data Books

The requirements for the equipment Design Data Books are outlined in Section 6.2. These Contractor-prepared documents include a design summary, design details, technical criteria and all supporting engineering design documentation required to demonstrate that the design conforms to the FDS, SoR and DBD. These Design Data Books will be reviewed and approved by the BP Discipline Lead.

Manufacturing Data Books

The Manufacturing Data Books (MDB) will be assembled by the equipment builder and used to maintain a record of procurement, manufacturing, inspection and testing associated with the equipment being delivered. The MDBs will primarily be a Quality Assurance responsibility. The responsible BP Lead Engineer will provide assistance where required in the development of the format for the MDBs, and will review specific technical material in the MDB as requested. The MDB shall normally contain the following information as applicable and as a minimum:

- Bill of Material
- Material Test Reports (including chemistry and mechanicals)
- Heat treating records
- Certificate of Conformance (COC)
- Weld maps
- Post-weld heat treat records

- Non-conformance reports
- NDE reports
- Critical dimensions inspection
- Hydrostatic test charts (assembly only)
- FAT signoff sheets (assembly only)
- Serialization of components report (assembly only)
- Coating documentation and test reports
- Electrical continuity test reports
- Pipe bending reports
- Weight certificates
- Lifting sling certificates (if applicable)
- Drift reports
- Valve / other component test reports
- Padeye load test reports

It will be the responsibility of the BP QA/QC group to review and accept the manufacturing data books.

Installation and Operational Manuals

Installation and Equipment Operation manuals will be developed by the appropriate equipment supplier. The manuals will be reviewed and approved by the BP Discipline Leads and by a representative from the Operations group.

Add equipment tagging information and dealing with electronic books with book marks shall be in accordance with BP Document 1440-30-GE-RP-0145 (Technip Document no. 3478-BSB-PA-0032) and instructions per BP Supply Chain Management-Deep Water, Deep Gas Business Unit. See email in Attachment 10 by Rochelle Savel.

Maintenance and Repair Manuals

Maintenance and Repair Manuals will be developed by equipment manufacturers with associated guidance from the Subsea Systems Team under the leadership of the respective equipment BP Lead Engineer. Manuals will be prepared using the following guidelines:

- Manuals to include integrated system level procedures with sufficient detail to support the planned offshore operations.
- Include possible contingency operations associated with normal operations.
- Ensure the procedures include input from the Operations, Drilling, Installation and Commissioning Teams, and other Subsea System Contractors.

- Ensure that Planned Maintenance (PM) schedules are consistent and format with the overall Project Schedule.
- Ensure that Troubleshooting Charts are prepared in detail, taking all possible failure modes into account.
- Ensure that the Safety Precautions are highlighted and clearly defined for each procedure.
- Ensure that the offshore operations staff is informed of equipment and tooling required to perform offshore maintenance.
- Clearly identify what maintenance or refurbishment operations should, or should not, be performed offshore.
- Electronic data and file size for the Atlantis project shall conform to requirements as stated in BP Document 1440-30-GE-RP-0145 (Technip Document no. 3478-BSB-PA-0032) and per BP Supply Chain Management-Deep Water, Deep Gas Business Unit. See email in Attachment 10 by Rochelle Savel.

Maintenance and Repair manuals will be developed by the appropriate equipment supplier.

9.1 Construction Scope of Work

The final design and construction activities of the Atlantis Project are divided into the PQ Hull, Mooring, Topside Modules, Subsea Systems (and related equipment). A Subsea Installation Team and a Commissioning & Start-up Team will be formed to work with the installation contractor(s) and to manage the offshore work during the later stages of the project.

The organization chart for the Subsea Team is included in Attachment 1. Detailed Installation Commissioning Procedures will be developed to cover these activities.

9.2 Constructability Plan

The Construction Industry Institute (CII) defines constructability as the optimum use of construction knowledge and experience in planning, design, procurement, and field operations to achieve the overall project deliverables. Constructability differs from Value Engineering (Section 6.9) in scope and manner of analysis. Value Engineering focuses on functional analysis and project life cycle costs, while Constructability is achieved by utilizing construction experience in a well-structured and appropriately timed manner. This philosophy will be maintained throughout the final design, fabrication, testing and installation phases. The full benefits of constructability require a proactive approach that must be driven by the individual BP Lead Engineers in their respective equipment areas. A Subsea Systems Constructability Plan will be executed by applying the construction knowledge and

expertise of the entire Subsea Systems Team: BP Leads, Technip engineers, Contractors and subcontractors at an early stage to the component and system designs of the project.

During the design phase of the project, future manufacturing costs can be attained by designing with the manufacturer's capabilities in mind. This approach applies throughout the entire design process, not only in the selection of forms, fittings and construction of parts, but also in material selection with respect to machinability, weldability and required heat treatment.

It is also important to carefully review the functional design and detail design requirements prior to fabrication to ensure that individual components both meet the necessary specifications but do not grossly exceed these specifications, thereby adding additional cost. Each component, subsystem and system of the project must meet the requisite specifications and be fit for purpose.

It is the intention of the Atlantis Subsea Systems Team to apply these principles and satisfy these requirements by continuous survey and analysis of the ongoing design, planning and manufacturing activities. Each BP Lead Engineer will be familiar with the Constructability Plan and its underlying philosophy, and ensure these principles are constantly being applied to the project.

9.2.1 Roles and Responsibilities

The Constructability Plan addresses the Subsea Systems project management strategy to ensure that the equipment will meet constructability through all phases of the project including:

1. In-plant fabrication
2. FAT and EFAT testing
3. System Integration testing
4. Offshore installation
5. Maintenance operations
6. Retrieval and replacement if necessary

This Constructability Plan will assist the Contractors in completing their work scopes by promoting efficient constructability analysis methods complementary with existing industry practices. This activity should neither impede the progress of the project or its sub-projects but should improve both the scheduled progress and overall cost-effectiveness of the project.

The Subsea Systems Team will take the following actions in implementing the Constructability Plan:

- Ensure all Subsea components, sub-systems and systems equipment meet the operational needs of the Atlantis Field requirements.
- Ensure that all Subsea Systems equipment meets the required FDS and detail design requirements.
- Ensure that all Subsea Systems equipment meets the safety and technical requirements of BP, BHP Billiton, industry and the obligatory federal and state regulatory requirements.
- Provide equipment that can be installed from the DD II or PQ as indicated in the respective Installation Procedures.
- Ensure that all ROV intervention activities can be accomplished.
- Serve as a source of information for other delivery teams (Hull, Topsides, etc.) interfacing with the Subsea Systems equipment.

In general, the Contractors are responsible for preparing their own Constructability Plans to support the overall plan and to perform their contractual duties within that plan. The Subsea Systems Team, through its individual BP Lead Engineers, will provide the technical leadership and experience to direct the Contractors and their sub-contractors as required, to complete their work in conformance with the specifications. The Subsea Systems Team will also provide the necessary link for all critical items and will serve as the information interface with the Installation Contractor.

9.2.2 Constructability Means And Methods

The following means and methods will be applied to accomplish the above

Responsibilities. A designated Subsea Systems Team representative, normally the BP Lead Engineer, or his/her authorized representative, will be available at each Contractor's facility to:

1. Monitor and report material and technical progress of the Contractor and its sub-contractors.
2. Monitor and report all QA/QC requirements in accordance with the Atlantis Quality Plan (Technip Document No. 3478-BQA-PA-0001, BP Document No. 1400-30-QA-PR-0002).
3. Provide technical leadership and experience as needed to the Contractor.
4. Include representative(s) from Contractor into Atlantis Subsea Systems Team.
5. Review engineering work to ensure that equipment designs, technical specifications, procedures and other engineering work meet the contractual requirements.

6. Work with the Contractor(s) engineering teams to develop technical interface solutions and resolve technical issues.
7. Provide prompt responses to all technical queries, interface queries and clarification requests received from Contractor(s).
8. Review test procedures, operating manuals and maintenance/repair manuals for technical quality and content.
9. Disseminate appropriate Company technology and engineering information to Contractor(s) staff.
10. Assist in the following activities without appreciably delaying progress:
    - Conduct QA/QC and material reviews.
    - Analyze system and component interfaces, including running tools, connectors, valves, ROV interfaces, stackups, jumper installation tolerances, etc.
    - Monitor manufacturer's qualification programs with respect to design reviews, prototype assembly and testing. Witness appropriate tests.
    - Closely monitor the manufacturer's construction quality and review all non-conformance reports. Ensure that equipment is "fit for purpose" and meets all relevant project specifications.
    - Review manufacturer's FAT, EFAT and SIT procedures.
    - Subject finished products to a Final Factory Inspection and approve release for shipment.

Constructability Plan results are captured in Design Review, Hardware Quality Plan, Manufacturing Process Plan and other related documents.

9.3 Contracting Plan

Foundation for the Contracting Plan can be found within the Frame Agreements that have been put into place with the BP selected vendors.

Subsea Systems Team

Frame Agreement contractors have been selected to provide the necessary engineering, fabrication, testing, and installation experience to the Atlantis Project, using the "best player plays" criteria noted earlier. The Subsea Systems Team (SST) is headed by the Delivery Manager who is directly supported by the appropriate discipline BP Lead Engineers. This core technical management team in turn is directly supported by a technical support staff comprised of Technip Offshore Engineering, Inc. (Technip), FMC and NEXANS. Subsea 7 will be the umbilical installation contractor. The flowlines and risers installation contractor will be identified in 2003.

Contract Administration will include monitoring the long-term contract-related requirements of Atlantis, including those of each of the individual Delivery Teams. The overall contract administration has been assigned to Mustang Engineering, Inc., working on behalf of BP.

The Subsea team's Contract Administrator will be responsible for financial reporting, budget preparation, vendor contracts, cash flow analysis, and vendor change orders. These responsibilities include reporting any contractual modifications and Management of Change processes necessary to meet the project goals and objectives. On a daily basis, each BP Lead Engineer will be responsible for achieving the contractual goals and objectives within his or her assigned discipline.

The overall subcontractor management strategy is to control risk and maximize value. In support of this objective, the BP contracts and procurement group and its Technip support group will develop long term partnerships with subcontractors and vendors based upon historical professional relationships and new relationships with audited subcontractors that are added to the Approved Bidders List as the project develops. All subcontracts must meet the Atlantis Project requirements; such contracts are controlled by assigned personnel as described within the scope of the BP Project Procurement Execution Plan (1440-30-PU-MA-0031).

The subcontracting management strategy developed for Atlantis includes the following essential features:

- Subcontract the parts of the overall Atlantis Project to product groups where the suppliers have core competency or can provide overall benefit to the project.
- Pre-qualify potential subcontractors as critical elements to the success of the project.
- Subcontractors may use internal procedures and schedules if the seller's process meets the Atlantis Procurement Team's minimum requirements.
- Subcontractor and supplier warranty periods and liabilities will be transferred to the project under the BP procurement terms.
- Subcontracting strategies will seek to: align interests, compensation and risk allocation; simplify contractual interfaces; maximize scope definitions to reduce change order potential; and develop "win/win" arrangements.

9.4 Project Management Plan*

The Subsea team is led by the Delivery Manager who will be supported by the BP Project Engineer and specialist BP lead engineers. Specialists and Technip personnel will comprise

* See Attachment 9 for ANF/DC3 specific requirements.

the remainder of the Subsea team. A Technip Project Manager will be assigned for managing personnel and work scope. The Technip Project Manager is responsible for ensuring that all aspects of Technip supply meet the intent of Design Engineering Services Contract (No. BPA-00-01772). Project Management will be in compliance with the referenced contract and subordinate documents and where none exist will use Technip Project Management Practices.

9.5 Operability

Since the Atlantis Field is located in the deepwater frontier in the GoM, all Subsea equipment support operations will be diverless. Current project plans are to have two dedicated ROV system onboard the DDII through first oil and thereafter as deemed appropriate. These ROV systems, including full tooling packages, will be used to assist in the day-to-day production operations which will include manual valve operation, routine inspections and planned and unplanned maintenance. All Subsea equipment (e.g., trees, manifolds, jumpers, control SCMs, etc.) will be installed or retrieved using ROV support.

Due to Atlantis site water depth and relative remoteness (approximately 190 miles South of New Orleans), considerable emphasis has been placed upon component and systems reliability. Using the design philosophy and activities described in Section 6.0, Technical Management Plan, the Subsea Systems Team has focused upon long-term reliability and operability as major design objectives for all Subsea equipment being provided.

The Subsea equipment being developed for the Atlantis Project will be designed to operate effectively and reliably during the following operations:

- Drilling Operations
  - Running and retrieving wellhead systems
  - Running and retrieving test trees
  - Installing and operating IWOCS
- Workover support
  - Completion and Production Operations
  - Well startup
  - Monitoring pressure & temperatures
  - Switching wells to test
  - Routine and emergency shutting in wells
  - Chemical injection
  - Hydrate monitoring and remediation
- ROV Operations
  - Inspection and CP monitoring

  - Pipeline touchdown and pipelay support
  - Pile installation support (suction or drilled)
  - Jumper installation and test
  - Hydraulic and electrical flying lead installation
  - Equipment installation / retrieval (trees, manifolds and jumpers)
- Maintenance and Repair
  - Subsea choke insert and SCM replacement
  - Subsea tree, manifold and jumper replacement
  - Valve override
  - Hydrate remediation support (seawater heating)

Plans and procedures will be developed for drilling, completion, installation and workover operations based upon the best BP practices available. These plans will draw upon BP's worldwide experience to ensure safe, environmentally sound, and cost-effective operations.

The Atlantis Subsea Systems Team is comprised of personnel with diverse backgrounds in drilling, production operations, pipeline construction, Subsea equipment development and ROV operations. This team, together with the Contractor's technical teams, will ensure that operability and reliability are not compromised in the design, fabrication and testing of the Subsea equipment.

9.5.1 Roles and responsibilities*

The individual BP Lead Engineers have the prime responsibility for developing appropriate operating procedures for their respective Subsea equipment. Within the overall Atlantis Team, the Subsea Systems Team will develop these procedures jointly with the Drilling and Operations groups as appropriate to ensure the operability and long-term reliability of the Subsea equipment.

Planning for field operability begins during the design phase of the equipment. To provide the necessary input and involvement of the Drilling / Completions and Operations groups, a series of Operability Reviews have been planned during the development of the Subsea hardware. The BP Lead Engineers will work with all the contractors to ensure that various suppliers of components and sub-systems for the Subsea equipment will interface with each other and the other equipment areas (i.e., Topsides, Hull Systems, etc.).

* See Attachment 9 for ANF/DC3 specific requirements.

9.5.2 Objectives and Goals

The operability objectives for the Subsea Systems Team are to ensure that the Subsea equipment is designed in a manner that provides safe, continuous and easily accessible operations. These objectives should be met during all phases of the project: drilling, installation, production and maintenance. Sufficient flexibility in design will be incorporated to allow for future enhancements to expansion and / or rearrangement.

9.5.3 Resources

As described in Section 6.1, the BP Lead Engineers will assume leadership responsibilities for the development of their respective equipment packages. They will be supported by contractor personnel as required. The Subsea System teams will work closely with the Atlantis Drilling / Completions and Operations groups as appropriate to ensure effective operating plans are developed. Contractors who are participating with the equipment fabrication and installation will also contribute to the preparation of the operating procedures.

9.5.4 System Integration Testing (SIT)

A comprehensive series of tests will be performed on the Subsea equipment during the SIT. The SIT testing is intended to verify the compatibility of all interfacing components. Each Contractor will be responsible for coordinating their respective equipment for the tests. The Atlantis Subsea Systems SIT will likely be performed by FMC at its Gears Road facility since it is the supplier of most of the Subsea systems.

Each Contractor will provide a list of their recommended tests required to verify proper operation and interfacing of their equipment with other supplier's hardware. Extensive tests will be performed to ensure adequate ROV tooling access and operation of the intervention hardware.

Other off-site (FMC) tests will be conducted if it is determined that such tests (i.e., ROV Tooling Tests) are of advantage to the project.

ROV procedures and SIT testing will be managed by the BP Well Systems Lead.

9.6 Transportation Plan

A definitive Subsea team Transportation Plan has not yet been prepared for the Atlantis Project. However, the overall responsibility for establishing the necessary contractual arrangements will be assumed by the BP Subsea Systems Project Administrator. Insofar as specific equipment packages are concerned, it will remain the responsibility of each BP Lead Engineer to ensure that his/her equipment has been fully tested and complete in all

respects regarding hardware and documentation before the equipment is loaded for shipment. The equipment documentation will include all deliverables identified in each Work Package Release's "Contractor Data Requirement List" (CDRL) and/or each equipment functional design specification (FDS).

9.6.1 Purpose

The purpose of the Atlantis Subsea Transportation Plan is to ensure all Subsea hardware is shipped efficiently, cost-effectively and in a timely manner. Good management of the individual equipment shipments is essential to avoid costly delays in the program, especially if overseas shipment is necessary. A project goal will be to economically organize crating, freight, insurance and documentation for all Subsea equipment.

9.6.2 Implementation

A Transportation Plan has been put into place by the Subsea Team for the Atlantis project and it is found in BP document # 1440–10–PU–PR–0009 (Technip Doc # 3478-BPO-PA-0002) Logistics and Transportation Plan

It is expected that the BP Procurement Group with Deepwater Development (DWD) logistics will develop a detailed Transportation Plan in due course. This plan should include the appropriate contractual arrangements and processes with common carriers for the necessary hardware packing, shipping, documentation and insurance. Opportunities to reduce transportation costs should be identified in the Plan, such as consolidating shipments when possible, co-insuring with the manufacturer's coverage, etc. This plan will need to be customized to Atlantis Subsea by the BP Project Administrator.

A separate schedule and procurement database will be established and maintained to track materials and monitor shipping status. The schedule will link to the master Subsea Systems Project Schedule to highlight any critical path items. Weekly reports should be prepared giving the status of delivery and highlight any item that may require expediting. The schedule and weekly procurement status report will be distributed to provide project-wide notice of shipping and project needs. The weekly report should also include performance-measuring sections to highlight goal achievement and report upon such transportation parameters as mean time for shipment, on-time delivery, late delivery and cost vs. budget reviews.

Equipment packaging will be as per Frame Agreement, contract or as otherwise agreed and approved by the Subsea team. It is expected that the BP Procurement Group will arrange the necessary packing for safe handling. Shipping, with appropriate documentation and insurance arrangements through BP selected carriers, shall be approved by BP.

9.7 PQ Integration Plan

A detailed plan and schedule shall be developed to cover the installation and integration of equipment as to the PQ host vessel. This plan shall be developed by the Subsea Installation and Integration Team (IIT), now the Offshore Leadership Team (OLT).

The Integration Plan shall address such issues as:

- Contractors
- Project Management
- Equipment Installation
- Commissioning
- Operations
- Work Execution

9.8 Offshore Installation Plan*

The Installation Plan for the Atlantis Subsea equipment includes installation of the following equipment. The plan, to be developed by the selected Installation Team, will include a detailed schedule and information similar to that listed in Section 9.7 above.

- PLET Initiation Piles
- Manifolds
- Manifold Foundation Piles
- Production / Test Flowlines and Risers
- Water Injection Flowlines and Risers
- Pipeline End Terminations (PLETs)
- Flowline Anchoring Units
- Hydraulic Umbilical Termination Assembly (HUTA)
- Electrical Umbilical Termination Assembly (EUTA)
- Hydraulic and Electrical Umbilicals
- Hydraulic and Electrical Flying Leads
- Manifold to Manifold Jumpers
- Tree to Manifold Jumpers
- PLET to Manifold Jumpers
- PLET to PLET Jumpers
- Production Trees
- Water Injection Trees

* See Attachment 11 for Split Campaign

- Manifold Pigging Loops

Installation procedures, schedules and plans will be developed to facilitate a safe and efficient installation for all of the above equipment with attention to the ability to retrieve the equipment or retrievable parts of it, if required for repair.

The primary purpose of the Installation Plan is to ensure that the interfaces, process of installation and the environmental conditions are adequately analyzed and investigated. The installation process for all of the above equipment must be considered during the design phase to ensure that the installation can be performed in a safe and efficient manner.

In the event that installation cannot be conducted as the base case schedule, a split installation campaign could be envisioned. Such a campaign will be conducted under a management of change (MOC) requirements. The "Split Installation Campaign" will be defined and described in attachment 11 of the document.

9.8.1 Scope Of Work

It is planned that development drilling by a mobile drilling unit (MODU) will commence in Q1, 2004. A total of five (5) production wells are planned to be completed prior to First Oil in Q2, 2006. The current development plan shows all wells being drilled from DC1 (Drilling Center #1).

Current development and installation schedules assume some overlap of drilling and installation activities during the first phase of installation. Primary installation contractors will be contracted to install the installation of the flowlines, risers, PLETs, umbilicals and UTAs. The Subsea construction at DC1, including trees, jumpers, flying leads, manifolds, piles and mudmats, is envisioned to be performed using the DDII dynamically positioned over DC1. This work, or parts thereof, may also be contracted to a different contractor if this proves to be efficient and operationally attractive.

The Subsea Systems Lead Engineers will endeavor to ensure that the equipment to be installed is designed for that purpose in a safe and efficient manner. This will include the incorporation of handling means (lifting eyes, running tools, etc.), provision for proper engagement with mating parts (orientation, soft landing, hydraulically or ROV-operated connections, high-angle make or break connectors, etc.), surface tests wherever possible to simulate Subsea remote connections, and generation of Assembly, Test, Running & Installation procedures for every Subsea installed component or system.

9.8.2 Organization

The ultimate responsibility for each of the subsea equipment packages resides with the BP Lead Engineer for each discipline. The major disciplines are: Flowlines and Risers; Umbilicals; Controls; Manifolds; PLETs; Jumpers; and Trees. The installation phase will be performed under the direction of the Subsea Systems Team with the BP Lead for each equipment area having the responsibility for installing his / her equipment. Each Lead will have access to an Installation Consultant that will provide specialized consultation, procedure development, contractor evaluation and support during the installation operations as required. The Installation Consultant will have responsibility for the overall safety and efficiency of the installation operations.

9.8.3 Interfaces*

The primary interface teams for the Subsea Systems installation activities include:

- For wellhead, tree and manifold equipment:
  - Drilling team
  - Topsides team
- For the flowlines and risers:
  - Floating systems team, which includes Hull and Topsides teams
  - Mardi Gras team
  - Commissioning team
- Atlantis PQ builder (DSME)
- Integration yard team

9.8.4 Implementation

The implementation of the Installation Plan shall be as early in the project as possible since installation is part of the considerations given to each component during the design phase. Preventing re-design or later revisions caused by unforeseen installation requirements can save significant time and money.

The preparation of preliminary installation procedures was started in August, 2002.

9.8.5 SIMOPs

The BP Installation team is responsible for preparation and development of the Installation Plans and SIMOPs Plans, with detailed plans being developed by chosen installation contractor. Such plans will be reviewed and approved by respective BP Leads and the BP Installation Coordinator.

---

* See Attachment 9 for ANF/DC3 specific requirements

9.9 Severe Weather Contingency Plan

A Severe Weather Contingency Plan will be developed once Installation Contractors have been selected. Responsibility for other severe weather plans remains with the Floating Systems and Operations Teams.

9.10 Offshore Logistics

Offshore logistics will be coordinated through the BP Fourchon facility by the BP Project Administrator or as otherwise directed.

9.11 Subsea Commissioning and Start-up Plan

A detailed plan shall be developed to cover the commissioning of Subsea equipment. This plan may be split into various sub-plans such as commissioning for PQ and commissioning for MODU. Additionally sub-plans can be considered which address specific specialist areas such as Control System, Diverter System, etc.

Each discipline lead is responsible for developing an associated plan while the Installation team is responsible for integration of all plans. Such plans should address issues of:

- Workforce make-up
- Operations
- Hook-up
- Commissioning
- Support for other teams
- Demobilization

9.12 Operations Plan

The Subsea Systems Team will assist Operations in developing a maintenance program for all Subsea equipment. This will include the acquisition of recommended spare parts needed for Subsea equipment for both planned and unplanned maintenance. The prime contractors, who are selected in part because of their experience and commitment to long-term service and support, will assist BP in the planning and documentation of the maintenance program.

9.12.1 Planned Maintenance

The BP Leads in conjunction with the Subsea Team and with Operations will acquire, review and approve the data necessary for planned maintenance procedures from the respective equipment manufacturers. This documentation will include repair manuals and the recommended schedule for planned maintenance and details of the maintenance operations. The manufacturers will also provide all identifications such as part numbers,

name plate data, etc. The planned maintenance schedule and component information will be inputted into an appropriate BP database system. The Subsea Team will also identify and provide any special tools or materials required to disassemble and/or repair the Subsea equipment.

The Subsea Systems Team will also work closely with Operations to ensure that appropriate training is available and taken by all technicians who will be working on the specialized Subsea equipment. Any specialized training, such as ROV equipment and operations, will be provided by the service company selected for this work. Each specialized equipment or service company providing technicians to the Atlantis Project will confirm to BP the specific training each technician has taken.

9.12.2 Maintenance Organization

Using input from the Atlantis Operations group, the Subsea Systems Team will outline the responsibilities for upkeep and repair of the Subsea equipment and set out a recommended operational hierarchy for carrying out future maintenance. Delegation of all maintenance responsibilities will be clearly defined within the onboard (PQ and MODU) organizations. If long-term maintenance is required by the Project, Operations with support from the Subsea Team will establish appropriate long-term support and service contracts with specified manufacturers.

9.12.3 Spares Philosophy

During the final design phase of the Subsea equipment, a recommended spares list will be developed for each of the Subsea systems and their components. It will be the responsibility of each BP Lead Engineer to ensure that this list is complete and accurate for his / her discipline equipment.

The recommended spares lists will be reviewed with the Operations groups for their inputs. In coordination with Operations, the Subsea Team will order the initial spare parts needed for field commissioning (start up) and a specified initial period of field production.

9.13 First Year Production Efficiency Plan

The Subsea system will be designed to maximize first year production efficiency as defined by Operations. Field layout will also incorporate systems or methods for enhancing production to meet production efficiencies beyond year one.

Exhibit “D” to Declaration of David L. Perry (Part 2 of 2)

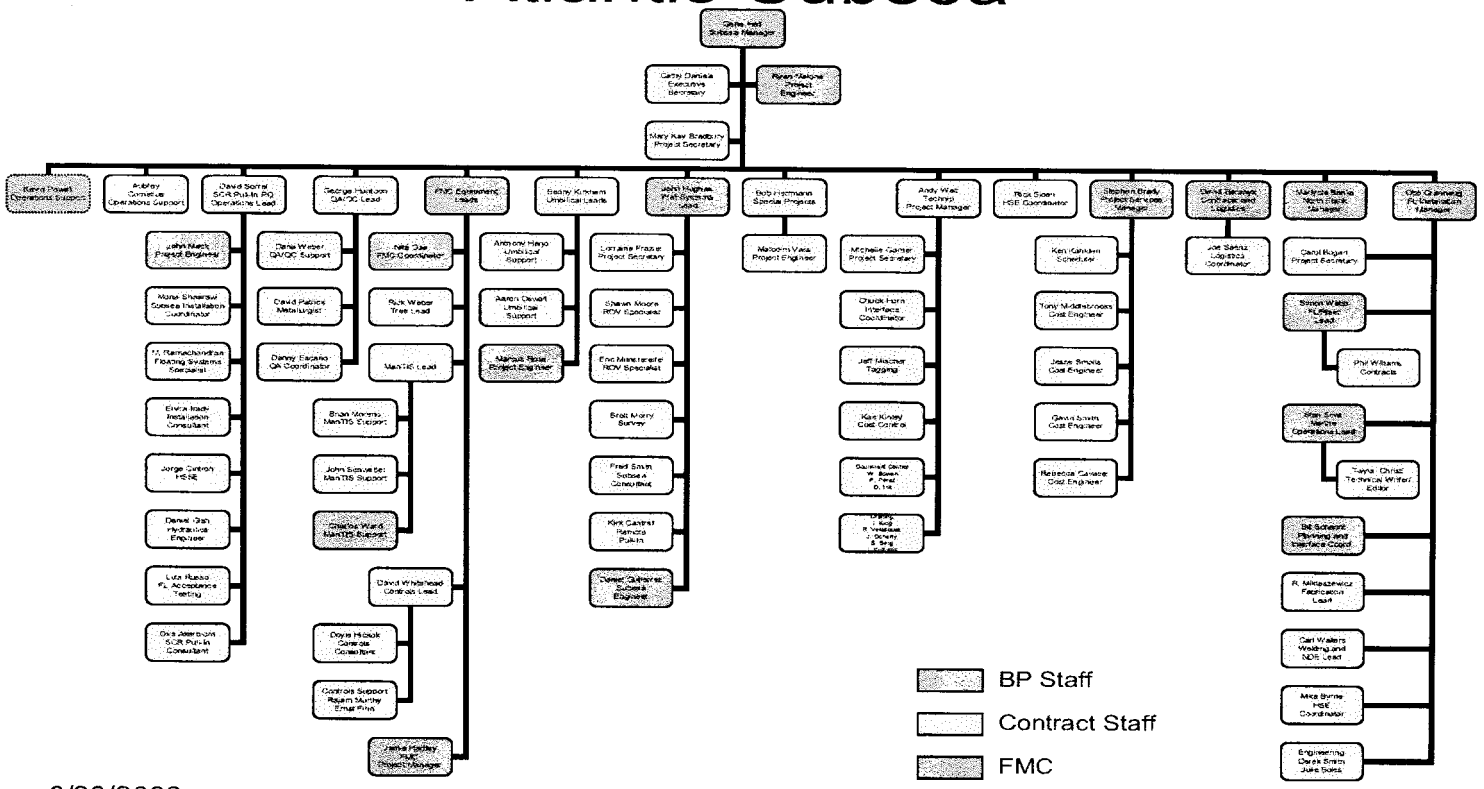
F

ATTACHMENT 1

Atlantis Project Organization Charts

- Atlantis Subsea Project Team
- Atlantis Project Services Team (See section 3.3.2)
- Atlantis Riser/Flowlines Installation Team
- Atlantis Project Team (FMC)
- ADC Org. Chart **(See Atlantis Project Team Chart)**
- DC 3 Execute Phase Org. Chart

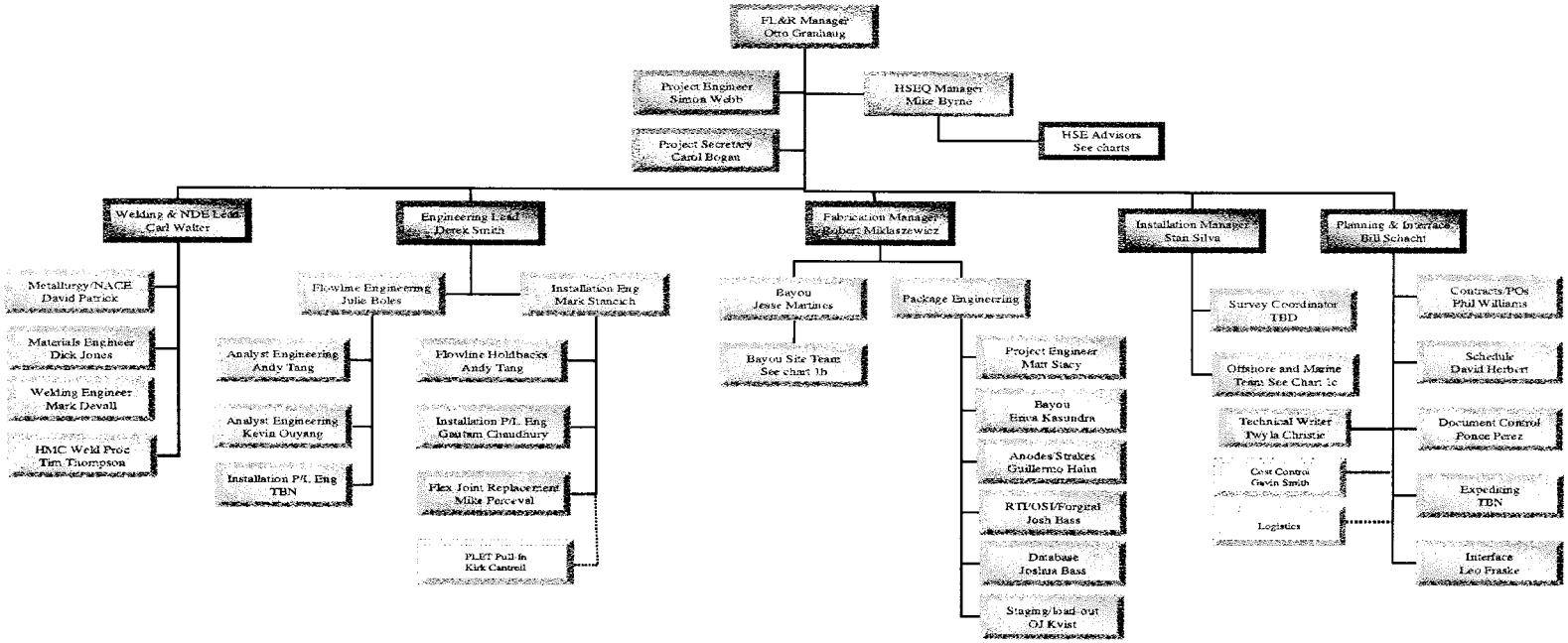
Atlantis Subsea



8/30/2006

Case 4:09-cv-01193 Document 345-10 Filed in TXSD on 04/04/12 Page 3 of 94

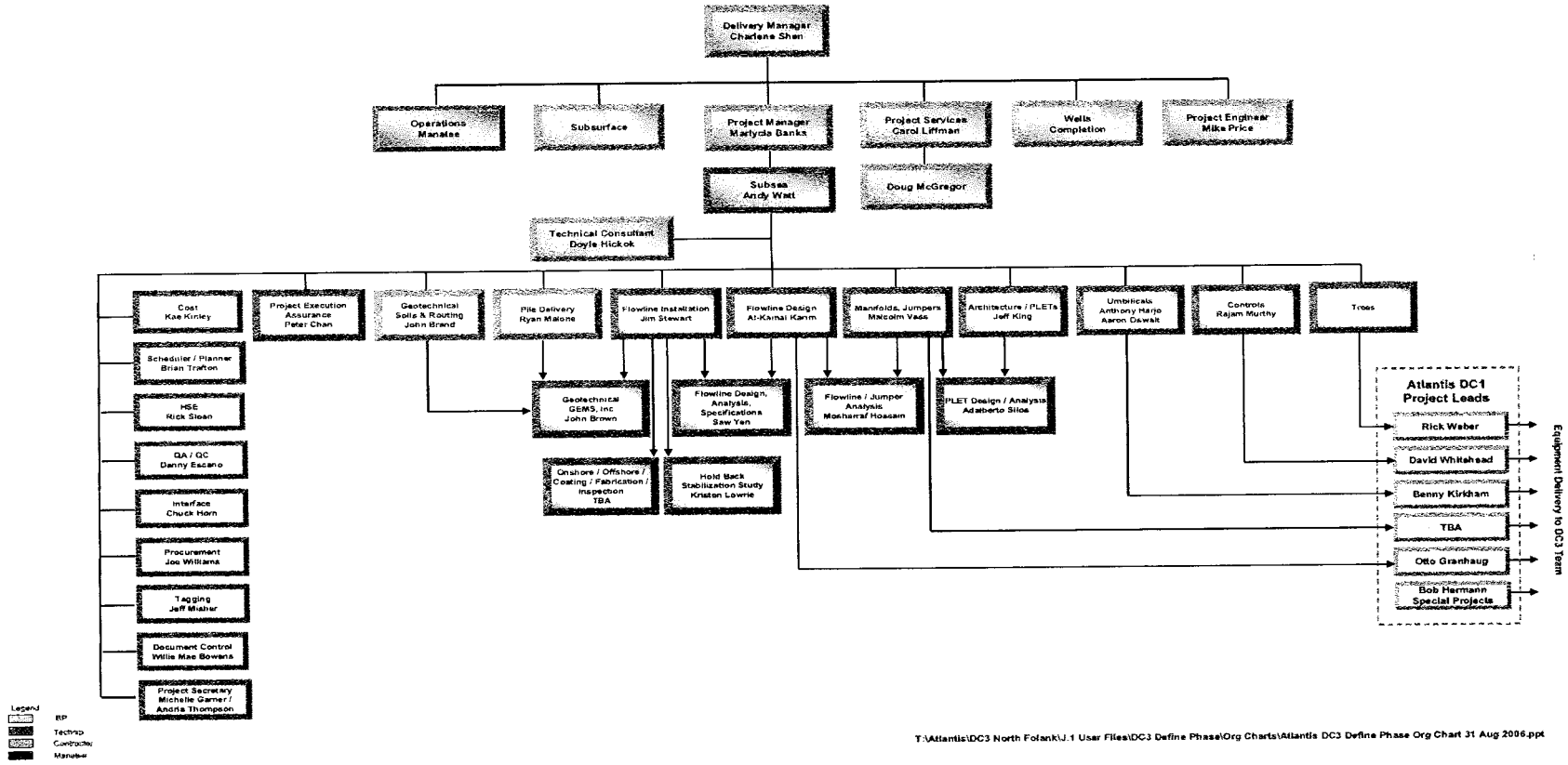
Atlantis Flowlines and Risers Group Chart 1 – General Organization



Case 4:09-cv-01193 Document 345-10 Filed in TXSD on 04/04/12 Page 4 of 94

bp

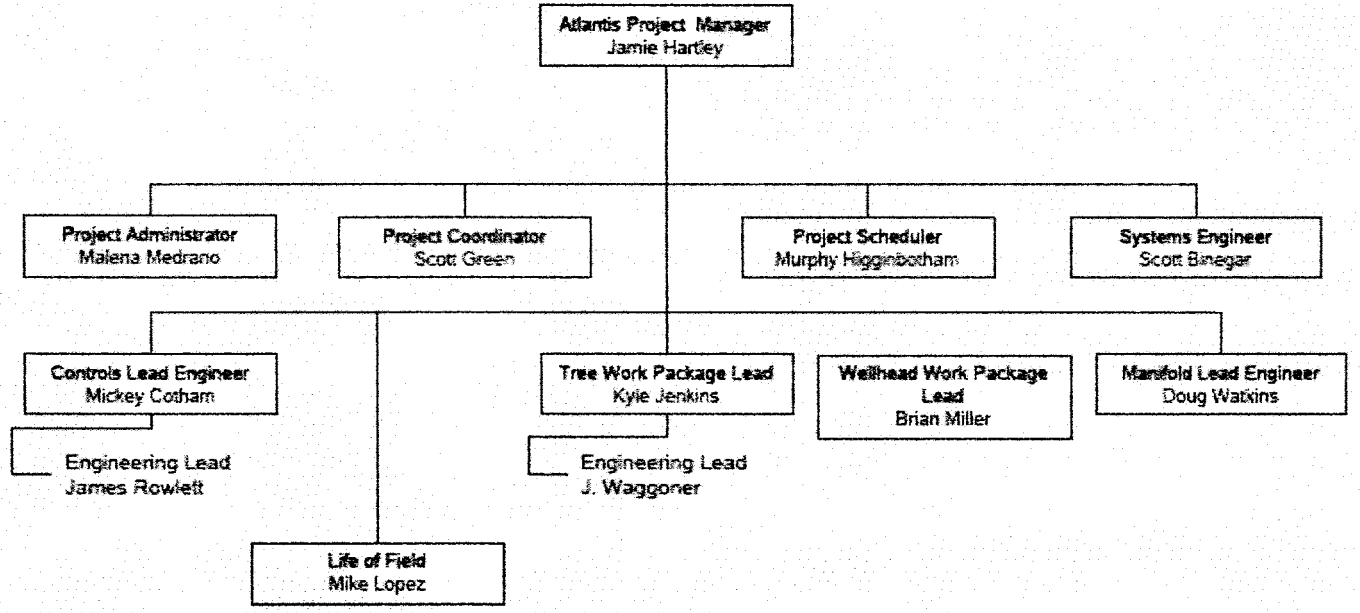
Atlantis DC3 Execute Phase Organization Chart



T:\Atlantis\DC3 North Fofank\J.1 User Files\DC3 Define Phase\Org Charts\Atlantis DC3 Define Phase Org Chart 31 Aug 2006.ppt

Case 4:09-cv-01193 Document 345-10 Filed in TXSD on 04/04/12 Page 5 of 94

BP Atlantis



FMC Technologies

Case 4:09-cv-01193 Document 345-10 Filed in TXSD on 04/04/12 Page 6 of 94

ATTACHMENT 2

Atlantis Key Representatives and Addresses

ATTACHMENT 3

Project Meetings Calendar

ATTACHMENT 4

Work Breakdown Structure (WBS) Diagrams

ATTACHMENT 5

Schedules

ATTACHMENT 6

"BP Data Security and Information Brokering"

ATTACHMENT 7

INTERNATIONAL TRAVEL REQUIREMENTS FOR CONTRACTORS"

BP America Inc. – 11700 Old Katy Road – Suite 150 – Houston, TX 77095
Telephone: (281)249-4304 – Facsimile (281)249-4323

Surburban Physicians Center
12345 Katy Freeway
Houston, TX 77079
(281)679-5600

Hours of Operation
M – F 7:00 a.m. – 10:00 p.m.
S – S 8:00 a.m. – 9:00 p.m.

No Appointment Required

RE: INTERNATIONAL TRAVEL REQUIREMENTS FOR CONTRACTORS

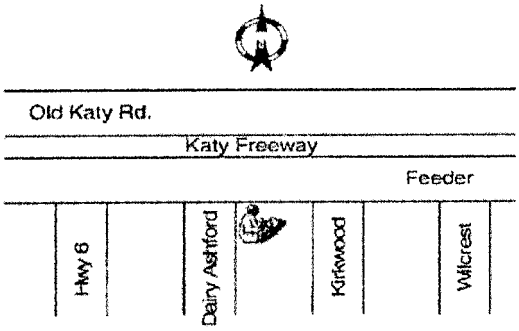
_____ requires a medical assessment, basic physical,
(Name of traveller)

UA, travel immunizations (if required), and travel kits to _____.
(Name of country)

SERVICES WILL BE PAID FOR BY THE INDIVIDUAL!

Should you require further information, please contact Cathy Daniels at (281)249-4304 or Gary Barker at (281)366-4766.

THANK YOU



ATTACHMENT 8

BPs GOLDEN RULES OF SAFETY

ATTACHMENT 9

DC3 Specifics

BP ATLANTIS
CONFIDENTIAL WORK PRODUCT

1.0 Following the Atlantis Statement of Requirements (SoR) Doc No.1440-10-AS-DC-001 Rev1, the Atlantis Design Basis Doc No. 1440-30-SB-DC-0033, the Atlantis North Flank Single Well Tie-back Project, Project Execution Plan (PEP) Doc No.1440-10-PM-RP-0002 is the highest level project execution plan document for the Atlantis North Flank (ANF) development. This attachment (Attachment 9) acts as the link between the higher level PEP described above and this PEP which describes the methodology under which the ANF/DC3 Subsea project team will operate.

The Project Management Plan, BP Document No. 1440-10-PM-PR-0003, contains the strategies for how to accomplish the project and the plans and procedures for processes that are common to all delivery teams of the project.

The purpose of attachment 9 is to highlight the specific variations of the subsea team project execution plan. The variations addressed will be as referenced in the Subsea Project Execution Plan following Table of Contents as noted in this document Technip Doc. No: 3478-BPM-RA-0001. Any sub paragraphs that are not highlighted will assume that ANF/DC3 project execution will comply with the overall Atlantis project requirements.

2.0 Health, Safety and Environment

- DC 3 will adhere to the Atlantis Subsea PEP Health, Safety and Environmental plan except that Table 2.2-2 defines DC 3 Major HSE Activities.

Table 2.2-2: DC3 MAJOR HSE / FSA ACTIVITIES

Description	Timing
Operability Review Session 1	Oct 2005
Operability Review Session 2	Feb 2006
Flowline Route Peer Review	Nov 2005
Slope Escarpment Feasibility Study	TBD
Ocean Bottom Seismic Study	TBD
Mardi Gras Pipe Lay Lessons Learned	Jan 2006
Soil Stability Analysis	Feb 2006
Product Introduction from North Flank HAZID	TBD
Execute PHSER	Jul 2006
Dropped Object Workshop	Aug 2006
Final Operability Review	Jan 2007
HAZOP	TBD
Construction / Detailed Engineering PHSER	Oct 2006
Tree Assembly Lessons Learned	Aug 2006
Manifold Fabrication Lessons Learned	Nov 2006
Manifold Installation Lesson Learned	Jul 2007
Tree and IWOCS Installation Lessons Learned	Jul 2007
Jumper Kit Fabrication and Assembly Lessons Learned	Jun 2007
PLET Assembly HAZID	Oct 2006
Flowline Acceptance Testing HAZID	Jan 2007
Jumper Installation Lessons Learned	Jul 2007
Remote Pull In HAZID	Dec 2006
Flowline Load Out HAZID	Nov 2006
Flowline Installation Lay & Pull-in HAZID	Nov 2006
PLET Installation Lesson Learned	Nov 2006
Bayou Coating Risk Lessons Learned	May 2007
Manifold SIT Lessons Learned	May 2007
Umbilical Installation Lessons Learned	Feb 2007
Umbilical Loadout Lessons Learned	Feb 2007
SIMOPS HAZID	Oct 2006

In addition, the Atlantis North Flank development will be executed against the expectations and elements contained within the BP GoM HSSE Management System including but limited to the:

- BP GOM Safe Practices Manual http://docs.bpweb.bp.com/dkgom/custom/dk/dk_view_content.jsp?objectid=0900a8858001655 7&path=/us_wl_dk_gom_hse:/content/hssems/gom_unified/UPS-US-SW-GOM-HSE-DOC-00404-2
- BP GoM Contract Aircraft Guidelines http://docs.bpweb.bp.com/dkgom/custom/dk/dk_view_content.jsp?objectid=0900a8858000c186&path=/us_wl_dk_gom_hse:/content/hssems/gom_unified/UPS-US-SW-GOM-HSE-DOC-00072-2
- BP GoM Crane Operation & Maintenance Program http://bp1houdm103/us_wl_dk_gom_hse:/website/custom/crane/toc_crane_ope_mgmt_prog.htm?docbase=us_wl_dk_gom_hse&ticket=vlinkpass&username=bp_vlink&rootpaths=%2Fwebsite%2Fcustom%2Fcrane%0A%0D
- BP GoM Operations Guidelines & Recommendations for Offshore Support Vessels http://bp1houdm103/us_wl_dk_gom_hse:/website/custom/offshore_support_vessels/10023_gom_operations_guidelines_and_recommendations_for_of.pdf?docbase=us_wl_dk_gom_hse&ticket=vlinkpass&username=bp_vlink&rootpaths=%2Fwebsite%2Fcustom%2Foffshore_support_vessels%0A%0D
- BP GoM Naturally Occurring Radioactive Material (NORM) http://docs.bpweb.bp.com/dkgom/custom/dk/dk_view_content.jsp?objectid=0900a8858000c1b7&path=/us_wl_dk_gom_hse:/content/hssems/gom_unified/UPS-US-SW-GOM-HSE-DOC-00121-2
- BP GOM MOC Database (Management of Change) http://moc.bpweb.bp.com/
- BP Traction System (Incident Reporting) http://traction.bpweb.bp.com/
- BP IMS (Incident Management System) http://hcc.bpweb.bp.com/
  - Vol.1Incident Management
  - Vol. 2Regional Oil Spill Plan
  - Vol. 3Severe Weather Contingency Plan
  - Vol. 4 Incident Management System – Houston Region Crisis Management Plan
- BP EMS (Environmental Management System) http://bp1houdm103/us_wl_dk_gom_hse:/website/hssems/content/ems_entire_gom.htm?docbase=us_wl_dk_gom_hse&ticket=vlinkpass&username=bp_vlink&rootpaths=%2Fwebsite%2Fhssems%2Fcontent%0A%0D

3.0 Project Management – Administration

The ANF/DC3 project team is an integrated multidiscipline team composed of BP staff and contractors, with BP responsible for overall management of the project. The team is composed of staff from disciplines including subsurface, wells, subsea, operations, project services, HSSER, and commercial.

The individual team managers / leads both to their functional delivery managers and the ANF Project Manager. This matrix organization is adopted due to the parallel project deliveries required by both the Atlantis South main development and this project. Except for a few dedicated ANF staff, most of the work will be performed in the delivery teams by the embedded Atlantis South personnel who will be required to share time between the projects, making careful staff management a key success factor. The matrix organization would ensure the transfer of best practices and standardization in our equipments and procedures. Managing conflicting work requirements and providing clarity on priorities, roles and responsibilities will be controlled at the Business Unit level. The core Atlantis North Flank Project Team organization chart is presented on the DC3 Execute Stage Organizational Chart listed in Attachment 1.

3.1.1 Goals and Objectives

Measures that will demonstrate success in the ANF achieving its goals are:

- Excellent HSE performance: no accidents, no harm to people, no damage to environment
- Development cost of less than 130 million CAPEX target.
- Subsea equipment installation within project schedule for 1st oil by May 08'
- High first year operability

3.2.4 Project Management Documents

The following documents illustrate the management documents that will be used as tools for communicating internally and externally to the ANF/DC3 Project Team:

- **ANF/DC3 Project Schedule**
  The overall Project Schedule organizes when the scope of work and deliverables need to be done and shows the dependencies of one delivery team on another.

- **Project Organization Plan**,
  Refer to sections 3.3 through 3.6 of this document. The Project Organization Plan defines who is accountable for the work and how they relate to one another.

- **Project Organization Chart**

Reference Figure 2.1.1 Organization Chart (Execute Stage) from ANF Single Well Tieback Project, Project Execution Plan (PEP) (Execute Phase) **Document No: 1440-10-PM-RP-0002.** For ANF/DC3 team members refer to Attachment 1 Subsea Execution Project Execution Plan (PEP) Execute Phase of this document. Team members shall complete deliverables through the existing DC 1 Atlantis BP equipment lead personnel. The complete Atlantis Organizational Charts are also found in Attachment 1 of this document.

4.2.3 Schedule Update

The major events and key milestones for the ANF/DC3 project are given in the following Table 4.2-3

Table 4.2–3: KEY SUBSEA SYSTEMS MILESTONES for ANF/DC3 Phase

Milestone or Event	Date
Complete Concept Development (Select Phase)	Sept 2005
Complete FEED (Define Phase)	Nov 2005
Start Execute Phase	Oct 2006
Start Subsea Equipment Fabrication (Non-Standard Equipment)	Aug 2006
Start SIT Testing	Dec 2006
Install Subsea Equipment	Feb 2007
Install Flowlines & Risers	July 2007
Install Umbilicals	Mar 2007
Commission Subsea System	Sep 2007
Deterministic First Oil	1Q 2008
Sanction First Oil	3Q, 2007

4.3 Estimating

The objective of the cost management plan is to provide the framework for the development, maintenance and reporting of project cost information. Existing Atlantis South procedures will be used for the definition, control, and forecasting the financial position of the ANF Project. Atlantis' facilities cost information including budgets, commitments, invoiced amounts, accrued Work-In-Place (WIP), and forecast total-installed-cost (TIC) are controlled using Kildrummy's Cost Manager Software. This work is performed by the cost engineer(s) under the day-to-day direction of he delivery team project service leads. The cross-team consistency of the data is overseen by the Atlantis cost functional lead.

The baseline for cost reporting will be the Execute Stage estimate prepared for sanction by the Subsea team based on the best available data and including provisions for likely market pressures. The estimate was put through a externally facilitated BRISK analysis in April 2006 to determine an appropriate level of Unallocated provision (UAP).

6.9.3 Roles and Responsibilities

The Subsea Team (SST), acting as the Subsea equipment general contractor, will provide the technical leadership and resources necessary to complete the work outlined in the SoR and individual equipment Functional Design Specifications (FDS). Within the SST, specific

BP Lead Engineers will be assigned for each major discipline area. These Lead Engineers will be supported as required by Technip and FMC technical teams.

The prime contractors are responsible for the work identified by the scope of work of their respective contracts as it relates to the project. They are also responsible for subcontracts pertaining to the project where major interfaces or direct connections exist between their equipment and the specific subcontract. Prime contractors are chosen on the basis of their technical and project management skills and their commitment to providing long-term service to the Atlantis project. They are accountable for the overall engineering, construction and testing of the various components defined by their contracted scopes of work.

7.0 Interfaces

As the strategic link to the PQ Floating Systems (topsides and hull teams), the SST will provide the necessary interface information for all critical items. The BP Lead Engineers responsible for contracted work scope serve as the focal point for all aspects of the work being performed.

8.0 Procurement and Procurement Plan

Equipment and services for the Atlantis North Flank Single well tie-back project will be procured using sound business practices, from sources that provide maximum value as defined by quality, price, delivery, reliability, existing alliances and applicable laws and regulations. All procurement activities will adhere to BP Ethical Standards and comply with BP Group Procurement Policy and systems of internal control.

- HSE requirements will be worked in advance of all commitments to 3rd party suppliers and contractors.
- Standardization and utilization of existing BP agreements will be adhered to where applicable.

Equipment or services in excess of $1mm will have a written strategy to ensure compliance with policy. Competitive tendering will be the norm for all procurement activities. When not applicable or existing market conditions dictate, authority to Negotiate and Sole Source justifications will be documented and approved prior to any commitments to 3rd party suppliers or contractors. Specific subsea equipment to be procured are listed in section 4.2.1 of the ANF/DC3 PEP

9.0 Construction Plan

It is the intent of the project team to conduct subsea fabrication and installation in compliance with selected BP design specifications, follow all technical assurance processes

throughout the design and installation phases, and ensure the long term safety and operability of the Atlantis North Flank single well tie-back wells. Activities will include:

- Develop project specifications, philosophies, and design guidelines where they vary from the already existing Atlantis documents;
- Ensure that BP Technical Assurance Process is followed, including MOC process;
- Conduct Health, Safety, Security, Environment and Regulatory Reviews;
- Ensure GoM Safe Work Practices are followed throughout construction and installation phases of the project;
- Develop subsea installation, commissioning, and handover procedures;
- Develop and adhere to quality control/assurance plan;

Submit necessary documentation for regulatory approvals as it pertains to Atlantis North Flank single well tie-back.

9.3 Contracting Plan

At this time, it is envisioned that the Atlantis rig, Development Driller II (DDII) will install all equipments (tree, jumpers, controls, manifold, flowbase) in a similar manner to the DC1 installation if the rig schedule permits or if SIMOPS can be achieved. Subsea tree installation will definitely be managed by the Drilling and Completion team and run from the drilling rig. For the installation of other subsea equipments, vessel availability, costs and installation synergy will be considered in the decisions. For example, the subsea jumpers are small enough to be installed using light subsea construction vessel, however, these jumpers could be installed from the DDII while working in the SIMOPS mode as per DC1 installation strategy.

ATTACHMENT 10

BP Atlantis Project Final Vendor Data Book Letter

BP America Production Company
501 WestLake Park Boulevard
Houston, Texas 77079

type date

type vendor name
type address
type city, state, Zip

Attention:type name, if applicable; if not, delete this line

RE: BP Atlantis Project Final Vendor Data Books

Dear Vendor:

The Atlantis Subsea team is starting to receive Vendor Data Books. BP Operations (final BP client) has requested the following:

Book Marking - All books sent to the project should be Book Marked by installing tabs/dividers according to relevant information. The tabs should have titles marked on them to allow for quick reference for the operations team.

Electronic Files – The entire Data Book should be submitted in electronic format in addition to hardcopies. The electronic files shall not exceed 2 MegaBytes of data per file. It has been brought to our attention that computer servers which handle vendor documentation cannot handle voluminous manuals which are not provided in separate file format. Also, it is preferred that tabbed sections remain whole, and not be separated between electronic files.

Documents – We understand that our vendors have their own documentation processes, but BP requires that a BP document number be used upon transfer to us; furthermore, this number should be clearly visible on the first page of each (ALL) issued document(s). If you need assistance with your BP document number, please contact Willie mae Bowens at wbowens@technip.com.

Final Data Book - It is required that individually issued documents that pertain to Final Data Books for Operation, Reference, or Maintenance, be provided to us within one large Final Data Book. It may, however, be issued as separate volumes of the same Final Book (i.e., Vol. I – Technical, Vol. II – Maintenance, Vol. III – Operating Procedures). A Table of Contents that references Tabs and Book Volumes should follow the title page in the Final Book.

Document Release – We require as a minimum, and as per Work Package Releases or Purchase Orders, that two (2) hardcopies and one (1) electronic copy be submitted to our Document Control group when you release Final Data Books to us.

Please contact Jeff Misher at jmisher@technip.com for inquiry or clarification.

Thank you for your cooperation,

Rochelle Savel
Supply Chain Management – Deep Water, Deep Gas Business Unit
Atlantis Subsea Project Team
Rochelle.Savel@bp.com
BP AMERICA PRODUCTION COMPANY

ATTACHMENT 11

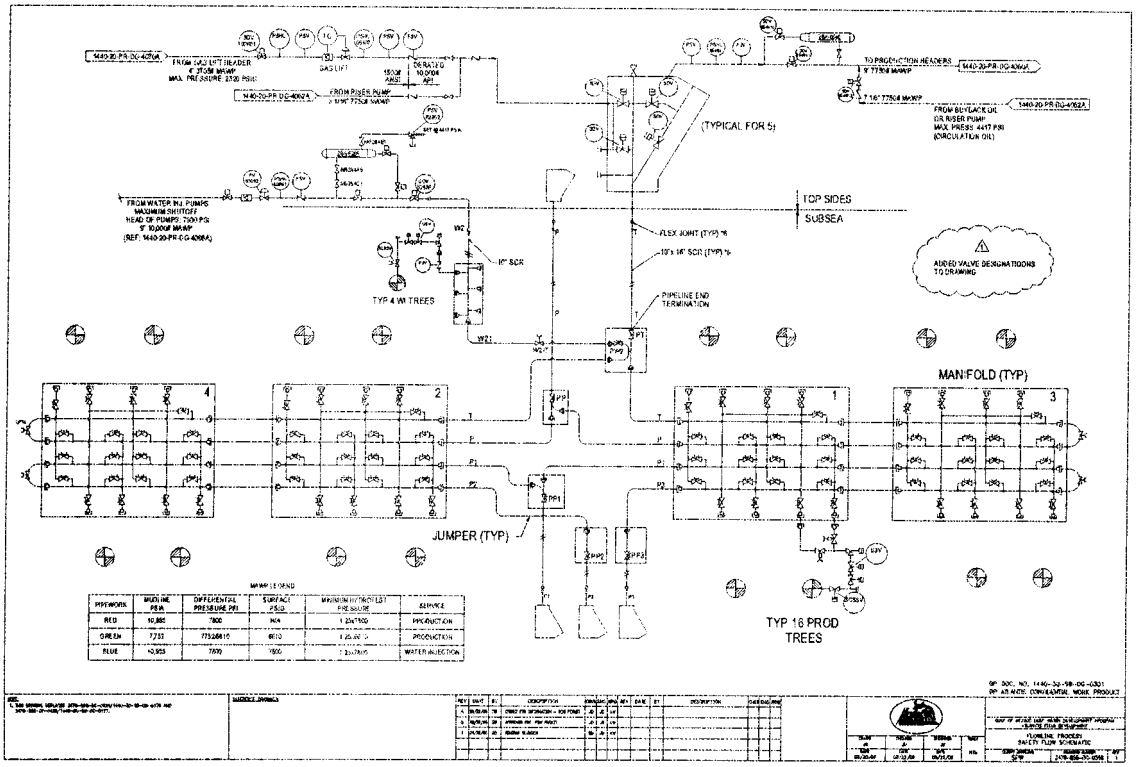
Split Installation Campaign

1.0 The purpose of attachment 11 is to the document the activities involved in the execution of the Atlantis split campaign operations to ensure adherence and conformance to the strategy as defined in the overall Atlantis project execution plan (PEP). The split campaign philosophy shall be documented in the PEP to provide direction for the development of specific tasks, process requirements and approvals and buy-ins from the various Atlantis project teams. This prime objective is to ensure that a well coordinated plan among the major project teams, including the Floating Systems, Wells and Operations Team's for a successful execution of the spilt campaign.

2.0 Terms of Reference

The Task Update Summary document provides direction and identifies major activities required for the proper execution of the split campaign operations. This document shall be updated as decisions and changes are made pertaining to the execution plan. Fig 11-1 shows the schematic for the split campaign start up. See Attachment 11-1 for the detailed Terms of Reference

Fig 11-1
Split Campaign Proposed Start up



Terms of Reference – Revision 5
Split Flowline / Riser Installation Campaign

Objectives: Investigate feasibility of an Atlantis start-up after Balder completion of a Phase I (out of II) flowline riser installation. Phase I scope includes lay and tie-in the W2, T and P flowlines and risers. The Balder is assumed to be demobed prior to beginning of the Phase II scope, and is assumed to begin some time period after start-up when it is remobbed. The umbilical scope during Phase I is considered to be H2, E2, H4, H6, and E4, installed by Subsea 7.

Phase II scope includes installation of the P1, P2 and P3 flowlines and risers by the Balder, and follow-on installation of the H3, H5, and H7 umbilicals by another 3rd party vendor (e.g. Subsea 7 or other).

Identify any incremental activities / tasks that will require completion, in addition to the deliverables for the base case start-up plan (i.e. all 6 flowlines / risers installed). Develop concept split start-up plan to extent that sufficient project data / activities are available to declare a new Atlantis Base Case schedule (subject to MOC).

Tasks / Resources

Split Start-up Plan – SELECT PHASE:

Task	Critical	Description	Task Leaders
1.		Review and approve Phase I TOR w ALT. Expected SELECT Gate deliverables (in Decision Support Package): • Split Start-up Plan / options (w schedule and production profile) • Extended Project Staffing requirements • Major risks and mitigating actions • Major tasks and enablers • Decision milestones • Economics comparison to base case	ALT
2.	●	Define high level installation plan Deliverables: Phase I and Phase II installation sequences	Simon Webb / Ryan Malone
3.	○	Perform Regulatory Gap Assessment Deliverables: Permits / amendments required and concept plan to deliver for start-up scenario. Impacts on requirement for	Dennis Sustala

Task	Critical	Description	Task Leaders
		permanent COI.	
4.	●	Define subsea and topside isolation plan – plan necessary to isolate system from equipment gap created by missing P1, P2 and P3 flowline / risers and any umbilicals. Deliverables: any incremental long leads items and work scopes necessary for isolation	John Mack / Ken DeJohn
5.	●	Perform Phase I commissioning activity gap assessment (compared to Base Case Atlantis commissioning plans/procedures) and determine conceptual activities required for commissioning of Phase II installation. Deliverables: revisions or additional procedures necessary for Phase I Early Start-up commissioning, and conceptual Phase II commissioning plan. Identify any new additional long lead items.	John Mack / Mike Mills
6.	○	Perform Topsides / Marine Systems readiness assessment Deliverables: Schedule drivers for early start-up	Mike Mills
7.	●	Perform Phase I Early Start-up plan, start-up activity / operations, gap assessment (compared to Base Case Atlantis start-up plans/ ops procedures). Deliverables: revisions or additional procedures necessary for Phase I Early Start-up. Identify issues with proposed well startup order.	Jim Ray / Jerry Sharp
8.	○	Conduct SIMOPS gap assessment and identify any early results based on installation sequence and existing SIMOPS plan (non-concurrent activities). Deliverables: SIMOPS gaps, and list of concurrent activities that are not allowed.	Allistair Warwich / Mike Mills / Geir Karlson

Task	Critical	Description	Task Leaders
		Proposed areas of restudy / new study.	
9.	●	Perform Preliminary Hazard Assessment by reviewing existing hazop entries and conducting high level hazid of split startup activities. Inputs should include past experience from DWP installations. Deliverables: Hazop Items that are in jeopardy of close-out as a result of the Phase I start-up plan and proposed mitigating action. New hazards and mitigating actions / processes necessary as a result of the Hazid.	Allistair Warwich
10.	○	Integrate subsea installation plan with topside delivery plan (including current scope), and Marti Gras flowbacks. Deliverables: System start-up flowchart	Mike Mills / John Mack
11.	○	Identify equipment turndown and/or operating constraints. Deliverables: Any incremental topsides turndown issues and operating limitations (e.g. max production rates through riser).	Jim Ray
12.	●	Perform gap assessment of marine and riser worthiness of PQ during production ops with only 3 risers installed, in 100 yr hurricane. Coordinate with Marti Gras on new neutral position and planned offsets. Deliverables: Confirmation that riser / mooring arrangement is within current design expectation, and any engineering studies that may be required if no firm conclusions are available.	Pat Kelly / Simon Webb / Mike Vandenbos sche
13.	○	Perform Preliminary Documentation Gap Assessment Deliverables: List of project documentation that may be impacted as a result of this change that is necessary to be available prior to Operations for start-up.	Mike Mills

BP ATLANTIS
CONFIDENTIAL WORK PRODUCT

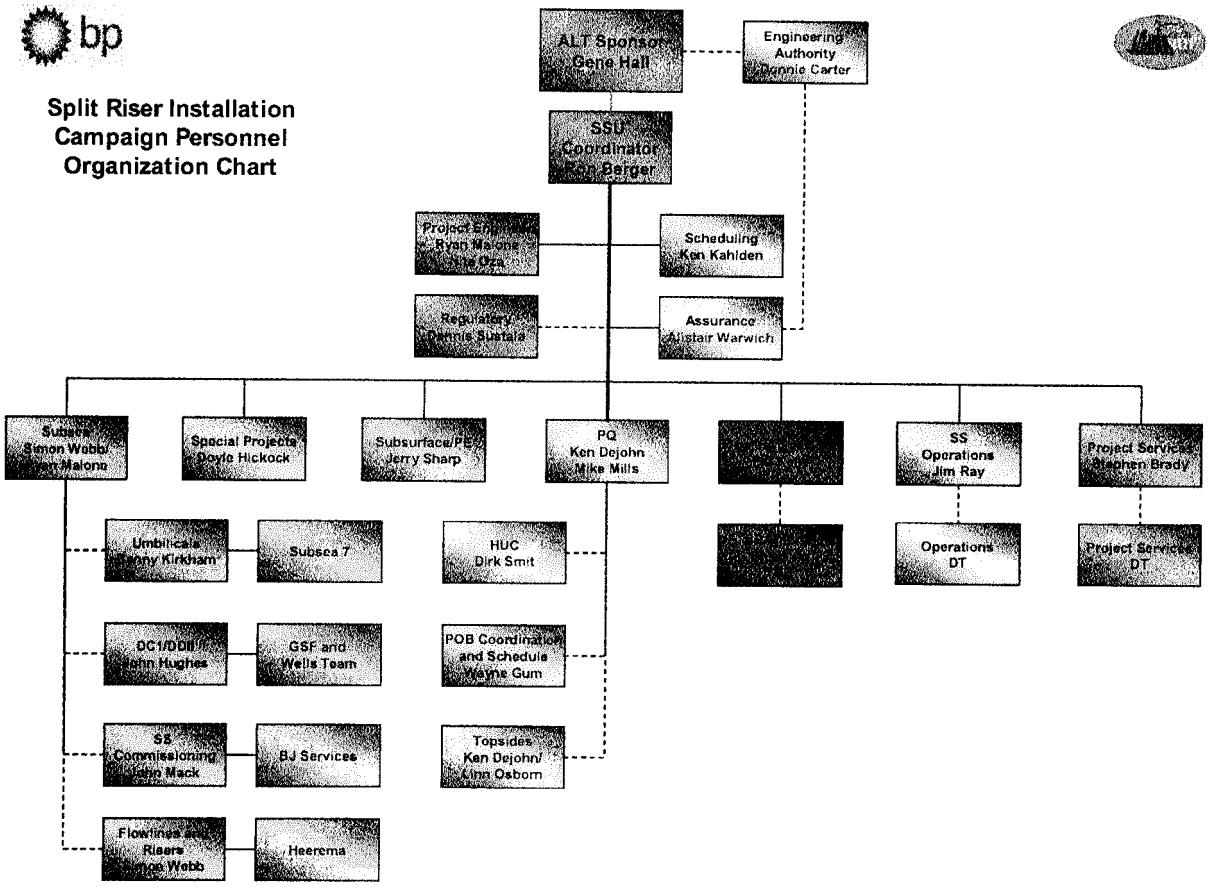
Task	Critical	Description	Task Leaders
14.	●	Develop Select Phase Early Start-up Schedule (high level) Deliverables: Develop schedule and production profile based on findings above which objective to show earliest possible start-up date.	Scheduler / R Berger
15.	●	Review staffing requirements Deliverables: Staffing that may be necessary for extended project including offshore on the PQ during HU. Identify additional temporary quarters that may be required.	Ryan Malone / Mike Mills
16.	○	Identify P1 installation impact Deliverables: Summary of any issues that the addition of the P1 installation or East / West rearrangement of the Phase I scope may create.	Conclusions drawn from results of other tasks
17.	●	Perform Economic Evaluation(s) Deliverables: Incremental compared to base case.	Dan Elmer
18.		SELECT Gate Review	ALT

Early Start-up Plan – DEFINE PHASE:

Task	Description	Resources
1.	Review and approve DEFINE Gate deliverables: • Updated Project Documentation (SOR, DBD, PEP) • Base Case Schedule • Assurance Steps required during Execute • Decision registers • Closure of major risks from Select • Preparation of MOC	ALT
2.	Perform engineering studies required out of SELECT. Run dynamic simulator with new production profiles.	Others
3.	Update SoR, DBD, PEP, Decision Registers, SIMOPS plan	SSU Coordinator / Project Controls, DDII and Ops Simops Lead
4.	Refine flowline and umbilical installation plan	FL Lead / Umb Lead
5.	Refine commissioning and tie-in plan	SS Comm / PQ Hook-up Lead / Topsides Lead / Operations Lead
6.	Perform additional detailed hazard assessments and mitigating actions as a result of the early startup and Phase II installation sequences. Additional Deliverables: Closure of Select Hazid entries, additional execute phase assurance steps	HSE Lead, Operations Lead
7.	Identify opportunities for simultaneous work (e.g. concurrent DDII ops, PQ hot-work, and Balder hand-off). Additional Deliverables: Simultaneous work opportunities and work plan	Prod Eng Lead / Ops Lead
8.	Refine base case shut-down plans and ramp-down, shutdown, and startup plans.	Ops Lead / PE / HSE Lead
9.	Develop Documentation Gap Mitigation Plan, System Handover to Operations plan	Topsides Lead / SS Eng Lead / Doc Manager / Ops Lead
10.	Review project equipment storage and maintenance plan for extended project and develop Execute plan to ensure	SS Lead / HU Lead

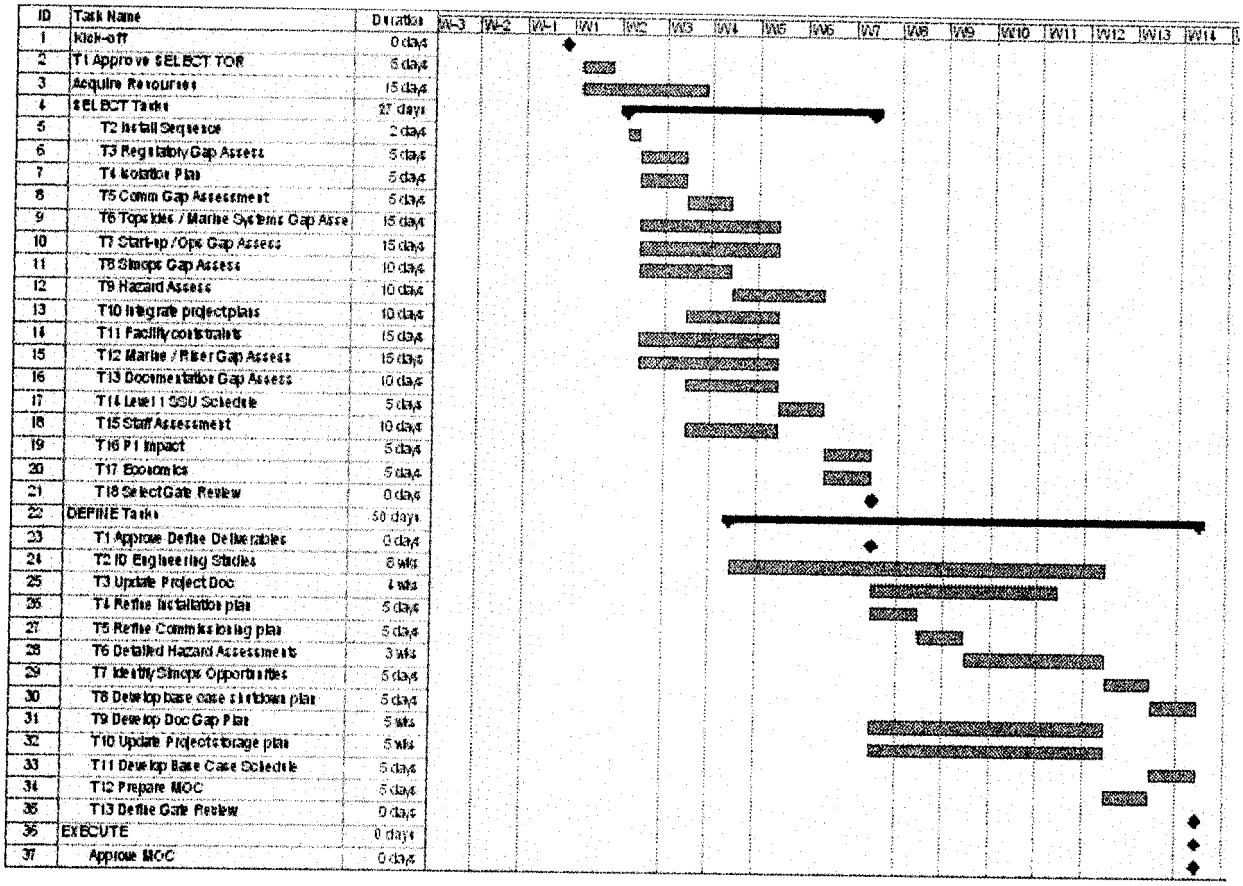
Task	Description	Resources
	proper equipment condition when required for use.	
11.	Develop Project Base Case Schedule and integrated onshore and offshore staffing plan.	Project Controls Lead
12.	Prepare MOC	Project Engineer
13.	DEFINE GATE Review	ALT

Organization



BP ATLANTIS
CONFIDENTIAL WORK PRODUCT

Schedule



ID	Task Name	Duration
1	Kick-off	0 days
2	T1 Approve SELECT TOR	5 days
3	Acquire Resources	15 days
4	SELECT Tasks	27 days
5	T2 Install Sequence	2 days
6	T3 Regulatory Gap Assess	5 days
7	T4 Isolation Plan	5 days
8	T5 Comm Gap Assessment	5 days
9	T6 Topsides / Marine Systems Gap Asse	15 days
10	T7 Start-up /Ops Gap Assess	15 days
11	T8 Simops Gap Assess	10 days
12	T9 Hazard Assess	10 days
13	T10 Integrate projectplans	10 days
14	T11 Facility constraints	15 days
15	T12 Marine / Riser Gap Assess	15 days
16	T13 Documentation Gap Assess	10 days
17	T14 Level I SSU Schedule	5 days
18	T15 Staff Assessment	10 days
19	T16 P1 Impact	5 days
20	T17 Economics	5 days
21	T18 SelectGate Review	0 days
22	DEFINE Tasks	50 days
23	T1 Approve Define Deliverables	0 days
24	T2 ID Engineering Studies	8 wks
25	T3 Update Project Doc	4 wks
26	T4 Refine Installation plan	5 days
27	T5 Refine Commissioning plan	5 days
28	T6 Detailed Hazard Assessments	3 wks
29	T7 Identify Simops Opportunities	5 days
30	T8 Develop base case shutdown plan	5 days
31	T9 Develop Doc Gap Plan	5 wks
32	T10 Update Projectstorage plan	5 wks
33	T11 Develop Base Case Schedule	5 days
34	T12 Prepare MOC	5 days
35	T13 Define Gate Review	0 days
36	EXECUTE	0 days
37	Approve MOC	0 days

ATTACHMENT 12

Prelay

1.0 The aim of the prelay options is to capitalize on vessel opportunities in lieu of delivery of the PQ on site. Prelay shall be carried out in accordance with normal laying operations and requirements.

The following Drawings Nos: shows the options for the prelay operations:

1440-34-PL-DG-0201-001 Flowline T Prelay (Option A)

1440-34-PL-DG-0201-002 Flowline T Prelay (Option B)

1440-34-PL-DG-0201-003 Flowline P Prelay (Option A)

1440-34-PL-DG-0201-004 Flowline P Prelay (Option B)

1440-34-PL-DG-0201-005 Flowline P1 Prelay

1440-34-PL-DG-0201-006 Flowline P2 Prelay

1440-34-PL-DG-0201-006 Flowline P3 Prelay

2.0 Water Injection Prelay

The water injection line has been prelaid and awaiting to be hooked up to the PQ on site.

3.0 Other Prelay

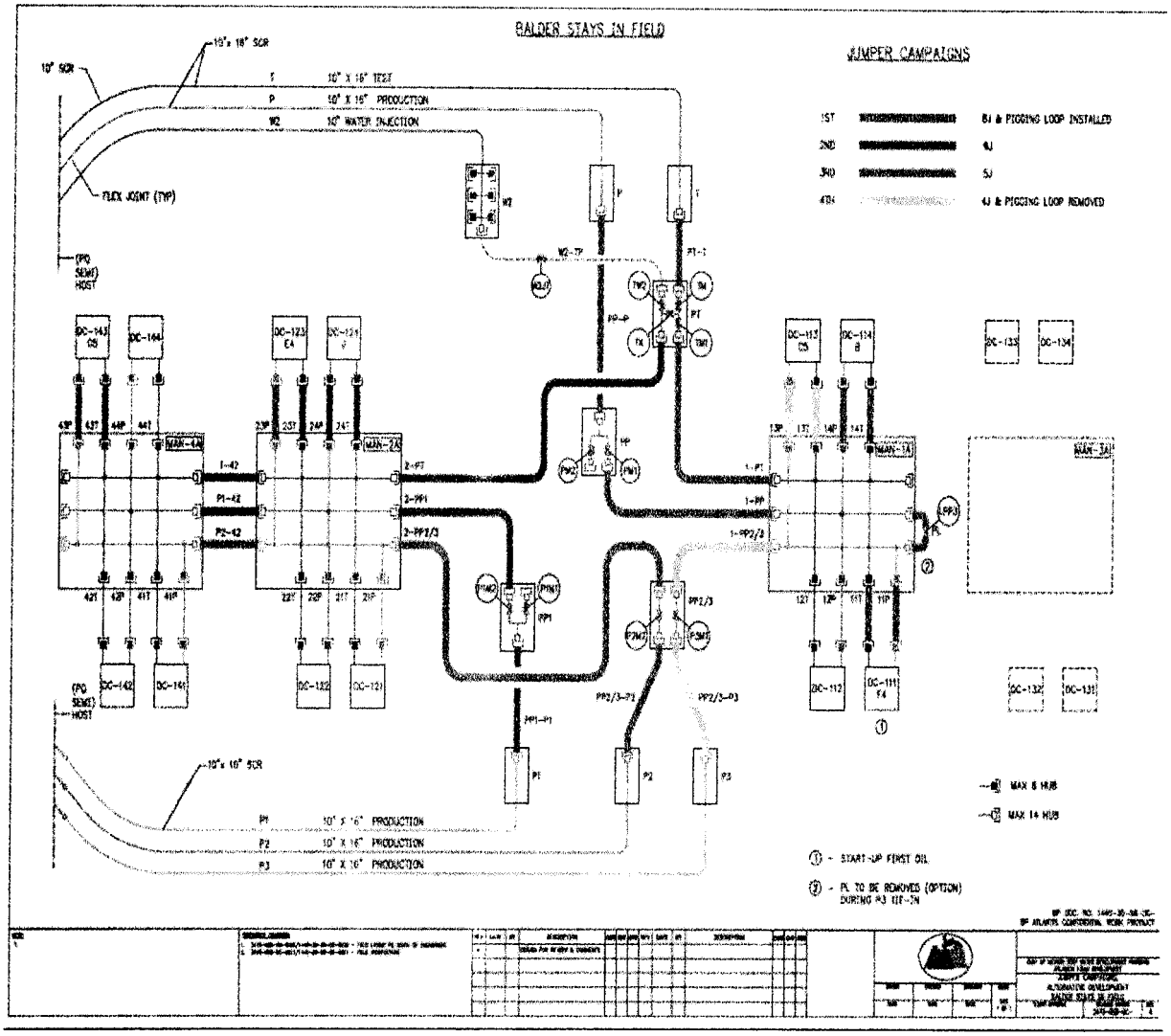
The options for prelaying the other lines have been laid out and referenced above. The options can be exercise based on what is expedient at the current moment. Prelay should not be any extra ordinary from the normal operations. The options, if exercised, will be decided by the Atlantis Leadership Team.

ATTACHMENT 13

Subsea Systems Phase 1 (SS1)

1.0 The purpose of attachment 13 is to the document the activities involved in the execution of the Atlantis SS1 to ensure adherence and conformance to the strategies as defined in the overall Atlantis project execution plan (PEP). The SS1 philosophy shall be documented in the PEP to provide direction for the development of specific tasks, process requirements and approvals and buy-ins from the various Atlantis project teams. This prime objective is to ensure that a well coordinated plan among the major project teams and sub-contractors, including the Floating Systems, Wells and Operations Team's for a successful execution of the SS1 campaign. Fig 13-1 shows the schematic for the SS1 subsea architecture.

Fig 13-1
Schematic of Fully Integrated SS1



2.0 Scope of SS1

The scope associated with implementation of SS1 includes elimination of all 8630/625 buttered welds in the subsea architecture with exception of the water injection line. The existing PLET structures shall be used for the fabrication of 5 new simple valve-less PLETs to meet prelay and mainlay schedules. In addition, 4 new PLEMs with various 9" gate valve configurations shall be built to meet start up and enhance operability. Eventually, 4 permanent manifolds shall be built at DC 1 and installed in phases. The new design for the SS1 manifolds will utilize the existing manifolds frame and sub-components.

An MOC shall be issued for implementation of the SS1 and shall be managed according to the execution plans within the overall Atlantis PEP.

3.0 Health Safety Environment (HSE)

HSE requirements for the SS1 shall conform to the overall PEP. No exceptions for HSE requirements have been identified for work carried out in association with SS1 plans.

4.0 Design Considerations

Design of the SS1 manifolds shall take into consideration the base case DC1 configuration in relation to the subsea architecture spatial layout to leverage the design of current jumper configurations. External coating and HWHR as well as CP systems shall be compatible to DC 1 design.

Materials required for SS1 shall be re-allocated from Atlantis North Flank (DC 3), if required, and components from the retrieved manifolds that include the hubs, valves, connectors. These shall be used to fabricate the new alternative manifold in the SS1 design.

The SS1 design is aimed at meeting 1st oil schedule and optimized to assure maximum offshore service life through integrity management of the SS1 components, especially in the area of minimizing corrosion during production. The current targeted minimum offshore service design life required for the SS1 components is 36 months.

The SS1 manifolds, new designed PLEMs and PLETs design features shall be documented in a supplemental section in the Atlantis Subsea Design Basis Document Execute Phase. BP Doc # 1440 – 30 – SB – DC- 0033. (Technip Doc # 3478 – BSB – RA – 0001). In addition, design and Peer reviews shall be conducted to address issues that might arise in implementing the SS1.

5.0 Contractors

The contractors for SS1 execution phase pertaining to the supply of the SS1 subsea components are listed in the table below. Installation, commissioning and hook up plans have not deviated from the original Atlantis PEP found in Section 9.0

Table 5.1-1 Contractors Responsibilities for Supply of SS1 equipment

Contractor / Subcontractor	Workscope Description
Technip Offshore, Inc. The major technical support to BP has been provided by Technip under the terms of a Frame Agreement (Well System Integration and Design Engineering Services Contract, No. BPA-00-01772) established in January, 2001. The scope of work specified in that contract includes:	As defined in Table 3.3-1 of this PEP Detailed design and engineering for the SS1 manifolds, PLEMs and PLETs
FMC Corporation	Remediate the 9" valves and connectors Engineering support to OSI (SVI) and RTI,
Omega Engineering	Fabricate the PLEMs and the PLETs
RTI	Re-fabrication of hub, hub supports and manifolds. Re-machine the hubs
Allison Marine	Remediate and fabricate jumpers Base for load out and staging area
OSI (SVI)	Re-engineer and fabricate the SS1 manifolds

6.0 Construction

Construction plans for the SS1 shall conform to the current statements found in Section 9 of this PEP. Any exceptions to the construction plan shall be reviewed and authorized by the SS1 execution team, in collaboration with the Atlantis teams. The SS1 execution team will continue with scrutinizing interface issues and fully understand the design implications and impacts with a view to lock in the SS1 design for the path forward.

7.0 Testing

SS1 components testing requirements shall be defined in the respective functional specifications. The minimum requirements are shell test for the Manifolds, PLEMs and PLETs to the stipulated test pressure of 9,750 psi. In addition, CP continuity test, HWHR system test and an external pressure test for the pressure caps will be conducted.

Unknown

From: Kenneth Abbott [kwabbott@comcast.net]
Sent: Tuesday, March 03, 2009 3:56 PM
To: kwabbott@comcast.net
Subject: FW: Atlantis Document Control Proposal - Path Forward
Attachments: Sector 31 - Wellheads - J.Hughes.xls; Sector 32 - Trees - R. Weber.ZIP; Sector 33 - Manifolds - J. Schwebel.ZIP; Sector 34 - Pipelines - J.Mack.ZIP; Sector 35 - Controls- D. Whitehead.ZIP; Sector 36 - Umbilical - B. Kirkham.ZIP; Sector 37 - Risers - J. Mack .ZIP; Sector 70 - Installation- J. Hughes.ZIP

From: Abbott, Ken (SWIFT TECHNICAL SERVICES)
Sent: Wednesday, November 19, 2008 3:15 PM
To: Broman, William H(HOU); Garland, Mike L; Curtis, Tinikka (NES); Naseman, Bill E
Subject: Atlantis Document Control Proposal - Path Forward

Bill - we made some revisions to the proposed process for correcting documentum. Please review and transmit to the leads for implementation as per our discussion...

From: Abbott, Ken (SWIFT TECHNICAL SERVICES)

Sent: Tuesday, November 18, 2008 5:16 PM

To: Broman, William H(HOU)

Cc: Curtis, Tinikka (NES); Garland, Mike L

Subject: FW: Rough Draft -Document Control Proposal

Bill - here is our go-forward Documentum QA plan as discussed at our meeting with Bill Naseman and Westlake Document control. Please review it and issue it to the leads as our plan to complete the needed quality control check on drawings issued and to ensure that we can identify and provide as built drawings as needed from documentum for each drill center.

From: Curtis, Tinikka (NES)

Sent: Tuesday, November 18, 2008 4:12 PM

To: Abbott, Ken (SWIFT TECHNICAL SERVICES)

Subject: FW: Rough Draft -Document Control Proposal

Attention Atlantis Leads: We are in the process of close-out for the DC-1 original scope project costs and the issue of all final documentum drawings to the operations group for these working assets. It is critical for these drawings that we QC them, get final as-built drawings by drill center, and transmit to operations quickly.

As we all know, there have been issues with non-compliance with project drawing numbering and tracking procedures, and the status of drawings by drill center is also not complete. We intend to remedy these problems and bring the DC-1 drawings to a proper close-out by the end of January 09, and issue as-built drawings to operations at the same time. To do so, we need your help. At the same time, it is our intent to get the DC3, Water Injection, and SS2 documentum tracking and document issue back in sync with current drawing control procedures.

We have reviewed the below plan will Bill Broman and the Westlake Document Control team, and we have their support. **This effort will require a dedicated resource from each of your teams to review and correct the spreadsheets (Tinikka has attached the spreadsheet below by lead and sector) showing the documents under your control (correcting the drill center #, rev #, rev status, etc.) during the next few weeks (scheduled completion date is 01/09/09).** Once we have the drawing data correct in Documentum, we plan to then issue documentum drawing schedules with required as-built drawing need dates for closeout for all documents for monthly status updating by the schedulers and leads.

Schedule for Documentum updates/corrections

11/24/08 - Tinikka Distributes Drawing Index to Leads, and begins meeting with Leads to explain input required as well as to help work sample corrections

01/09/09 - Leads Complete mark-up of Document Index with corrections and drill center # as required

02/06/09 - All corrections and drill center # attributes loaded into Documentum

02/13/08 - Summary drawing schedule to leads showing current drawing revision status and required issue date for all as-built drawings

02/27/09 - Final as-built drawings to Tinikka for all DC-1 drawings for issue to operations

Supporting Facts

Today most documents that come to BP document control comes from Technip document control in the subsea drop box in Documentum. Once the documents are QC, we find several issues with the documentation that need to be resolved before loading into Documentum.

Problem

Many of the documents in Documentum are incorrectly numbered, titled, and wrongly identified drill centers. This creates a problem for retrieval and the ability to handover accurate documentation to Operations.

Recommendation

BP Document Control will provide a spreadsheet for each lead with documents broken down by Sector.

A Document Status kick-off meeting will be scheduled with each of the Leads and/or Dedicated Representatives from each group for every document on the list to be reviewed and distinguish if

the following attributes are correct. If they are incorrect, the leads will need to mark them up on the spreadsheet with the correction for Tinikka to input into Documentum:

- Sector
- Discipline
- Document Type
  - Area – Drill Center
  - Revision
  - Rev Purpose Code - Status
  - Archival or Handover

Tinikka will work for a half-day with each lead to show them what drawing fields on the list must be updated and to go through examples with them. The leads will then need to complete the mark-up of their individual spreadsheets and return to Tinikka for input into Documentum by 01/09/09.

BP Document Control will begin to record the following attributes for more search capabilities.

- Originator/ Contractor Firm
- Transmittal number
- Contractor Document Number
- Status Code

Process

1. The Lead will receive the spreadsheet by **SECTOR.**

The first attributes to be reviewed are the Sector, Discipline, and Document Type. They need to be reviewed for accuracy and corrected. These attributes have a lot of impact on how documents are filed in Documentum.

- Sector
- Discipline
- Document Type.

2. The next attribute to be identified is the **AREA - (drill center).**

The drill center will determine the next steps to take with the document.

It has been argued that the phases do not matter, however because we work in phases it is to our advantage to label the document by phase if it's relevant to the document for easier identification at handover.

Subsea All

- Documents that is common to all Drill Centers

- There should not be very many of these documents, and most documents

should still have a specific sector other than 30.

- Most of these documents will stay with the project until the end of the

job.

Drill Center 1 – South Flank

DC-1

- **Documents that illustrate what is currently installed and planned to stay unless other circumstances occur.**
- **These documents are a priority because most of these documents reflect what's currently installed and operating and need to be handover to Operations.**

DC-1 (SS-0)

- Documents that illustrate Original design / equipment that was removed.
- All of these documents will probably be archived.

DC-1 (SS1)

- **Documents that illustrate what is currently installed but planned to be removed by another phase.**
- **These documents are also a priority because most of these documents reflect what's currently installed and operating and need to be handover to Operations.**
- **Some of these documents will be added to a cross-reference spreadsheet to ensure that they are superseded by the next phase documents and correctly numbered during the next phase.**

DC-1 (SS2)

- Documents that illustrate what will replace equipment that is currently installed
- These documents are still in review/comment status so any errors made can be corrected.

Drill Center 3 – North Flank

DC-3

- Documents that are assigned to Atlantis North Flank (ANF)

Base Case.

- These documents are still in review/comment status so any errors

made can be corrected.

DC-3 (Phase I)

- Documents that is specific to ANF Phase I only.

- These documents are the next priority because some of these

documents reflect what is installed but not operating. These documents

is the second priority on the list to be handed over to Operations.

DC-3 (Phase II)

- Documents that are specific to ANF Phase II only.

- These documents are still in review/comment status so any errors

made can be corrected.

3. Now we can begin to check the **revision code** and **rev purpose code** *(status code)*.

4. In some cases the leads and/or Rep know if the documents are going to be **handover to Operations** or **archived deliverables.**

This step will allow us to prioritize correcting the handover documentation before the archival data.

<<...>> <<...>> <<...>> <<...>> <<...>> <<...>> <<...>> <<...>>

Pursuant to the Declaration of David L. Perry, Paragraph 7, the files attached to the preceding e-mail were not printed.

.xls Attachment Titles (some within ZIP files):

Sector 31 – Wellheads – J.Hughes
Sector 32 – Trees – R Weber
Sector 33 – Manifolds – J Schwebel
Sector 34 – Pipelines – J Mack
Sector 35 – Controls – D Whitehead
Sector 36 – Umbilical – B Kirkham
Sector 37 – Risers – J Mack
Sector 70 – Installation-J Hughes

E-mail 41 of 61

Unknown

From: Kenneth Abbott [kwabbott@comcast.net]
Sent: Wednesday, March 04, 2009 10:47 AM
To: 'Pasha.eatedali@ombudsmanecp.com'
Subject: More information for your investigation
Attachments: FW: Atlantis Document Numbering Procedure and Drawing Reviews/Approval by the leads; Atlantis Document Control Proposal - Path Forward (688 KB)

Pasha – I have attached below a further complaint against BP for your investigation:

As I have previously stated, I believe that Bill Naseman has retaliated against me with my wrongful termination primarily because I stood up for a female employee who was being discriminated against and harassed by Alan Clark. I also believe that a secondary reason for my termination was retaliation because of my blowing the whistle during November 08 through January 09 regarding unsafe practices in offshore production unit drawing correctness and completion in violation of US Code, Title 43, chapters 29 and 36, public policy, and BP procedures on the Atlantis project.

Specifically, during November 08, I advised Bill Naseman and the project manager Bill Broman, as well as the project team, both verbally and then by email (see attached email – Atlantis document control proposal) that I and Tinika Curtis (Document Controller) had observed a failure by certain project lead engineers (John Schwebel, Benny Kirkham, and John Hughes) to ensure the proper coding of drawings they approved, (i.e. which sector did the particular equipment item belong to) and the failure to issue "as built drawings" to operations for the DC1 offshore production unit that had been complete and producing for a year. As shown in the email, the attachments show a record of the drawing status, and you can see in the revision status row, that many drawings are not issued as revision 0), or As Built, and most do not have "as built" stamped on them as required by GOM drawing procedures. It is critical that offshore operators have a complete set of as-built drawings when they start up a unit for their correct and safe assessment of operating problems on this unit. Yet even though the DC1 offshore wells had been operating since December 07, the operations group still did not have as-built drawings as of December 08. Tinika and I discussed this problem at length with the leads and project management and Bill Naseman. We prepared a plan to remedy this situation but it met much resistance and complaints from the above lead engineers on the project.

In particular, in Bill Broman's staff meeting on December 2, 2008 , John Hughes, Benny Kirkham, and John Schwebel questioned why the leads needed to check the drawings for correctness when they signed them off, and why did they need to push for final as-built drawings. They were very argumentative with me about this, and they also asked what procedure said they had to do these things. I responded that it was BP procedure as outlined in our Project Execution plan to do so and every oil company required their lead engineers to review drawings for accuracy and to obtain as-built final drawings from all vendors for operations before startup (see attached email - approval by the leads, which I sent them after the meeting on 12/17/08 with the procedure attached, which had been previously issued to them at the beginning of the project). Section 6.2 of the Atlantis Project Execution Plan states the following:

As-Built Documentation
The Lead Engineer for each discipline area will ensure that all technical documentation is updated to reflect the as-built condition of the equipment prior to deployment to the field.

I also told them that when the DC1 unit started production one year ago, that final "as built" drawings should have been turned over to offshore operations, and they had not been, and that

must be remedied as soon as possible.

The leads have been very unhappy with the need to get these drawings correct and issued as built to operations, and they have complained to Naseman and Bill Broman, the PM. In a staff meeting with Bill Naseman during December 08, I tried to discuss the subject of these leads refusing to properly review drawings and assure they were correct and final issued, and Bill Naseman did not want to discuss it or do anything to resolve it, he was too worried about keeping the good old boys happy. Several other staff members heard my comments, including Eddie Antoine, John Vernor, and Frank Schoffield.

When Bill Naseman met with me on 1/12/09 to blame me for Alan Clark's departure, he also said he had been told by the leads that I was too aggressive in getting the engineers to correct their drawings and get them finalized as built and to operations. I responded that I did not think it was too aggressive to try and get final as-built correct drawings issued to operations after the unit had been in operation for over a year (since December 07). I believe that Naseman was more concerned in covering up for the good old boys (the BP leads) and keeping them happy, than he was in doing the right thing for BP. Ron Berger is the operations manager on the Atlantis project and he is aware of this problem (since he has not received any DC1 as-built drawings) and Tinika and I met with him in early January 09 to discuss the problem with him and advise our plan to resolve this unsafe situation.

To my knowledge, operations still does not have as-built final correct drawings for DC1, nor has there been any progress on the North Flank as-built drawings, which is scheduled to start up in mid-year 2009. I have also advised Naseman and the project leads/manager that we need a drawing schedule for these as-built drawings from the vendors but these leads (Hughes, Schwebel, Kirkham) refuse to ask the vendors for any drawing schedules, so how can they know when or if these as-built drawings will be done. BP project execution policy also calls for a drawing tracking schedule on all projects, and that is being ignored by the Atlantis engineering team, and we have received no support from Naseman to make it happen.

In conclusion, I believe that BP is in violation of US Code Title 43, Chapter 29, regarding their lease production and operations schedule which called for completion of all drawings as built when the DC1 unit started up in December 2007. First, BP should report this failure to perform per their lease requirements to the Department of the Interior, Minerals Management Group. Second, they should work to immediately resolve the incomplete drawings problem to ensure the safety of their offshore operation. Third, they should reinstate my job, since I was retaliatory discharged in violation of Title 42, chapter36, subchapter 3 of the US code.

Unknown

From: Kenneth Abbott [kwabbott@comcast.net]
Sent: Friday, February 27, 2009 3:57 AM
To: kwabbott@comcast.net
Subject: FW: Atlantis Document Numbering Procedure and Drawing Reviews/Approval by the leads

---

From: Abbott, Ken (SWIFT TECHNICAL SERVICES)
Sent: Wednesday, December 17, 2008 9:54 AM
To: Mack, John G; Malone, Ryan P; Jondle, John J; Whitehead, David K (Technip); Schwebel, John; Mack, John G; Hughes, John D; Weber, Rick G; Price, Mike (Clover); Broussard, Danielle M; Kirkham, Benny (BAMA); Broman, William H(HOU)
Cc: Curtis, Tinikka (NES)
Subject: FW: Atlantis Document Numbering Procedure and Drawing Reviews/Approval by the leads

Team - In a previous staff meeting, John Hughes had some questions re our project document approval process and numbering process. I have attached the previously issued procedures that show the process involved for your information and use. If you have any questions, please advise..

From: Abbott, Ken (SWIFT TECHNICAL SERVICES)

Sent: Tuesday, December 02, 2008 2:56 PM

To: Broman, William H(HOU); Curtis, Tinikka (NES)

Cc: Curtis, Tinikka (NES)

Subject: FW: Document Numbering Procedure and Drawing Reviews/Approval by the leads

Bill - as per your request in the staff meeting this morning, attached are the following two documents.

The first is the GOM standard procedure for numbering drawings.

The second is our Atlantis Project Execution Plan, and section 6.2 through 6.4 details the processes for the leads to review and approve drawings, and how they should be numbered.

<<...>>

<<...>>

Tinikka Curtis

Atlantis Subsea Project Team

Document Control

Tinikka.Curtis@bp.com

281-249-8978

Unknown

From: Kenneth Abbott [kwabbott@comcast.net]
Sent: Tuesday, March 03, 2009 3:56 PM
To: kwabbott@comcast.net
Subject: FW: Atlantis Document Control Proposal - Path Forward
Attachments: Sector 31 - Wellheads - J.Hughes.xls; Sector 32 - Trees - R. Weber.ZIP; Sector 33 - Manifolds - J. Schwebel.ZIP; Sector 34 - Pipelines - J.Mack.ZIP; Sector 35 - Controls- D. Whitehead.ZIP; Sector 36 - Umbilical - B. Kirkham.ZIP; Sector 37 - Risers - J. Mack .ZIP; Sector 70 - Installation- J. Hughes.ZIP

From: Abbott, Ken (SWIFT TECHNICAL SERVICES)
Sent: Wednesday, November 19, 2008 3:15 PM
To: Broman, William H(HOU); Garland, Mike L; Curtis, Tinikka (NES); Naseman, Bill E
Subject: Atlantis Document Control Proposal - Path Forward

Bill - we made some revisions to the proposed process for correcting documentum. Please review and transmit to the leads for implementation as per our discussion...

From: Abbott, Ken (SWIFT TECHNICAL SERVICES)

Sent: Tuesday, November 18, 2008 5:16 PM

To: Broman, William H(HOU)

Cc: Curtis, Tinikka (NES); Garland, Mike L

Subject: FW: Rough Draft -Document Control Proposal

Bill - here is our go-forward Documentum QA plan as discussed at our meeting with Bill Naseman and Westlake Document control. Please review it and issue it to the leads as our plan to complete the needed quality control check on drawings issued and to ensure that we can identify and provide as built drawings as needed from documentum for each drill center.

From: Curtis, Tinikka (NES)

Sent: Tuesday, November 18, 2008 4:12 PM

To: Abbott, Ken (SWIFT TECHNICAL SERVICES)

Subject: FW: Rough Draft -Document Control Proposal

Attention Atlantis Leads: We are in the process of close-out for the DC-1 original scope project costs and the issue of all final documentum drawings to the operations group for these working assets. It is critical for these drawings that we QC them, get final as-built drawings by drill center, and transmit to operations quickly.

As we all know, there have been issues with non-compliance with project drawing numbering and tracking procedures, and the status of drawings by drill center is also not complete. We intend to remedy these problems and bring the DC-1 drawings to a proper close-out by the end of January 09, and issue as-built drawings to operations at the same time. To do so, we need your help. At the same time, it is our intent to get the DC3, Water Injection, and SS2 documentum tracking and document issue back in sync with current drawing control procedures.

We have reviewed the below plan will Bill Broman and the Westlake Document Control team, and we have their support. **This effort will require a dedicated resource from each of your teams to review and correct the spreadsheets (Tinikka has attached the spreadsheet below by lead and sector) showing the documents under your control (correcting the drill center #, rev #, rev status, etc.) during the next few weeks (scheduled completion date is 01/09/09).** Once we have the drawing data correct in Documentum, we plan to then issue documentum drawing schedules with required as-built drawing need dates for closeout for all documents for monthly status updating by the schedulers and leads.

Schedule for Documentum updates/corrections

11/24/08 - Tinikka Distributes Drawing Index to Leads, and begins meeting with Leads to explain input required as well as to help work sample corrections

01/09/09 - Leads Complete mark-up of Document Index with corrections and drill center # as required

02/06/09 - All corrections and drill center # attributes loaded into Documentum

02/13/08 - Summary drawing schedule to leads showing current drawing revision status and required issue date for all as-built drawings

02/27/09 - Final as-built drawings to Tinikka for all DC-1 drawings for issue to operations

Supporting Facts

Today most documents that come to BP document control comes from Technip document control in the subsea drop box in Documentum. Once the documents are QC, we find several issues with the documentation that need to be resolved before loading into Documentum.

Problem

Many of the documents in Documentum are incorrectly numbered, titled, and wrongly identified drill centers. This creates a problem for retrieval and the ability to handover accurate documentation to Operations.

Recommendation

BP Document Control will provide a spreadsheet for each lead with documents broken down by Sector.

A Document Status kick-off meeting will be scheduled with each of the Leads and/or Dedicated Representatives from each group for every document on the list to be reviewed and distinguish if

the following attributes are correct. If they are incorrect, the leads will need to mark them up on the spreadsheet with the correction for Tinikka to input into Documentum:

- Sector
- Discipline
- Document Type
    - Area – Drill Center
    - Revision
    - Rev Purpose Code - Status
    - Archival or Handover

Tinikka will work for a half-day with each lead to show them what drawing fields on the list must be updated and to go through examples with them. The leads will then need to complete the mark-up of their individual spreadsheets and return to Tinikka for input into Documentum by 01/09/09.

BP Document Control will begin to record the following attributes for more search capabilities.

- Originator/ Contractor Firm
- Transmittal number
- Contractor Document Number
- Status Code

Process

1. The Lead will receive the spreadsheet by **SECTOR.**

The first attributes to be reviewed are the Sector, Discipline, and Document Type. They need to be reviewed for accuracy and corrected. These attributes have a lot of impact on how documents are filed in Documentum.

- Sector
- Discipline
- Document Type.

2. The next attribute to be identified is the **AREA - (drill center).**

The drill center will determine the next steps to take with the document.

It has been argued that the phases do not matter, however because we work in phases it is to our advantage to label the document by phase if it's relevant to the document for easier identification at handover.

Subsea All

- Documents that is common to all Drill Centers

    - There should not be very many of these documents, and most documents

should still have a specific sector other than 30.

- Most of these documents will stay with the project until the end of the

job.

Drill Center 1 – South Flank

DC-1

- **Documents that illustrate what is currently installed and planned to stay unless other circumstances occur.**
- **These documents are a priority because most of these documents reflect what's currently installed and operating and need to be handover to Operations.**

DC-1 (SS-0)

- Documents that illustrate Original design / equipment that was removed.
- All of these documents will probably be archived.

DC-1 (SS1)

- **Documents that illustrate what is currently installed but planned to be removed by another phase.**
- **These documents are also a priority because most of these documents reflect what's currently installed and operating and need to be handover to Operations.**
- **Some of these documents will be added to a cross-reference spreadsheet to ensure that they are superseded by the next phase documents and correctly numbered during the next phase.**

DC-1 (SS2)

- Documents that illustrate what will replace equipment that is currently installed
- These documents are still in review/comment status so any errors made can be corrected.

Drill Center 3 – North Flank

DC-3

- Documents that are assigned to Atlantis North Flank (ANF) Base Case.
    - These documents are still in review/comment status so any errors made can be corrected.

DC-3 (Phase I)

- Documents that is specific to ANF Phase I only.
    - These documents are the next priority because some of these documents reflect what is installed but not operating. These documents is the second priority on the list to be handed over to Operations.

DC-3 (Phase II)

- Documents that are specific to ANF Phase II only.
- These documents are still in review/comment status so any errors made can be corrected.

3. Now we can begin to check the **revision code** and **rev purpose code** *(status code)*.

4. In some cases the leads and/or Rep know if the documents are going to be **handover to Operations** or **archived deliverables.**

This step will allow us to prioritize correcting the handover documentation before the archival data.

<<...>> <<...>> <<...>> <<...>> <<...>> <<...>> <<...>> <<...>>

Pursuant to the Declaration of David L. Perry, Paragraph 7, the files attached to the preceding e-mail were not printed.

.xls Attachment Titles (some within ZIP files):

Sector 31 – Wellheads – J.Hughes
Sector 32 – Trees – R Weber
Sector 33 – Manifolds – J Schwebel
Sector 34 – Pipelines – J Mack
Sector 35 – Controls – D Whitehead
Sector 36 – Umbilical – B Kirkham
Sector 37 – Risers – J Mack
Sector 70 – Installation-J Hughes

E-mail 42 of 61

Unknown

From: Kenneth Abbott [kwabbott@comcast.net]

Sent: Wednesday, March 04, 2009 11:21 AM

To: 'Pasha Eatedali'

Subject: RE: More information for your investigation

Hi Pasha – yes I would also like you to investigate this new concern as well. Can you now advise the results of the completed investigation?

From: Pasha Eatedali [mailto:pasha.eatedali@ombudsmanecp.com]
Sent: Wednesday, March 04, 2009 11:16 AM
To: Kenneth Abbott
Subject: RE: More information for your investigation

Ken,

I had completed your investigation yesterday and provided the report for review by the Deputy Ombudsman, Billie Garde. If you'd like me to look into this new concern (which you did not raise previously), it will require more time and would not fit the timetable you'd provided. Please advise.

Regards,

Pasha Eatedali
Office of The Ombudsman
1300 Eye Street, NW
Suite 900
Washington, DC 20005
Phone: 202-682-7262
Email: pasha.eatedali@ombudsmanecp.com

The information contained in this
email message is intended only for use of the individual or entity
named above. If the reader of this message is not the intended
recipient, or the employee or agent responsible to deliver it to
the intended recipient, you are hereby notified that any
dissemination, distribution or copying of this communication is
strictly prohibited. If you have received this communication in
error, please immediately notify us by email
and destroy the original message. Thank you.

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Wednesday, March 04, 2009 11:47 AM
To: Pasha Eatedali
Subject: More information for your investigation

Pasha – I have attached below a further complaint against BP for your investigation:

As I have previously stated, I believe that Bill Naseman has retaliated against me with my wrongful termination primarily because I stood up for a female employee who was being discriminated against and harassed by Alan Clark. I also believe that a secondary reason for my termination was retaliation because of my blowing the whistle during November 08 through January 09 regarding unsafe practices in offshore production unit drawing correctness and completion in violation of US Code, Title 43, chapters 29 and 36, public policy, and BP procedures on the Atlantis project.

Specifically, during November 08, I advised Bill Naseman and the project manager Bill Broman, as well as the project team, both verbally and then by email (see attached email – Atlantis document control proposal) that I and Tinika Curtis (Document Controller) had observed a failure by certain project lead engineers (John Schwebel, Benny Kirkham, and John Hughes) to ensure the proper coding of drawings they approved, (i.e. which sector did the particular equipment item belong to) and the failure to issue "as built drawings" to operations for the DC1 offshore production unit that had been complete and producing for a year. As shown in the email, the attachments show a record of the drawing status, and you can see in the revision status row, that many drawings are not issued as revision 0), or As Built, and most do not have "as built" stamped on them as required by GOM drawing procedures. It is critical that offshore operators have a complete set of as-built drawings when they start up a unit for their correct and safe assessment of operating problems on this unit. Yet even though the DC1 offshore wells had been operating since December 07, the operations group still did not have as-built drawings as of December 08. Tinika and I discussed this problem at length with the leads and project management and Bill Naseman. We prepared a plan to remedy this situation but it met much resistance and complaints from the above lead engineers on the project.

In particular, in Bill Broman's staff meeting on December 2, 2008 , John Hughes, Benny Kirkham, and John Schwebel questioned why the leads needed to check the drawings for correctness when they signed them off, and why did they need to push for final as-built drawings. They were very argumentative with me about this, and they also asked what procedure said they had to do these things. I responded that it was BP procedure as outlined in our Project Execution plan to do so and every oil company required their lead engineers to review drawings for accuracy and to obtain as-built final drawings from all vendors for operations before startup (see attached email - approval by the leads, which I sent them after the meeting on 12/17/08 with the procedure attached, which had been previously issued to them at the beginning of the project). Section 6.2 of the Atlantis Project Execution Plan states the following:

As-Built Documentation
The Lead Engineer for each discipline area will ensure that all technical documentation is updated to reflect the as-built condition of the equipment prior to deployment to the field.

I also told them that when the DC1 unit started production one year ago, that final "as built" drawings should have been turned over to offshore operations, and they had not been, and that must be remedied as soon as possible.

The leads have been very unhappy with the need to get these drawings correct and issued as built to operations, and they have complained to Naseman and Bill Broman, the PM. In a staff meeting with Bill Naseman during December 08, I tried to discuss the subject of these leads refusing to properly review drawings and assure they were correct and final issued, and Bill Naseman did not want to discuss it or do anything to resolve it, he was too worried about keeping the good old boys happy. Several other staff members heard my comments, including Eddie Antoine, John Vernor, and Frank Schoffield.

When Bill Naseman met with me on 1/12/09 to blame me for Alan Clark's departure, he also

said he had been told by the leads that I was too aggressive in getting the engineers to correct their drawings and get them finalized as built and to operations. I responded that I did not think it was too aggressive to try and get final as-built correct drawings issued to operations after the unit had been in operation for over a year (since December 07). I believe that Naseman was more concerned in covering up for the good old boys (the BP leads) and keeping them happy, than he was in doing the right thing for BP. Ron Berger is the operations manager on the Atlantis project and he is aware of this problem (since he has not received any DC1 as-built drawings) and Tinika and I met with him in early January 09 to discuss the problem with him and advise our plan to resolve this unsafe situation.

To my knowledge, operations still does not have as-built final correct drawings for DC1, nor has there been any progress on the North Flank as-built drawings, which is scheduled to start up in mid-year 2009. I have also advised Naseman and the project leads/manager that we need a drawing schedule for these as-built drawings from the vendors but these leads (Hughes, Schwebel, Kirkham) refuse to ask the vendors for any drawing schedules, so how can they know when or if these as-built drawings will be done. BP project execution policy also calls for a drawing tracking schedule on all projects, and that is being ignored by the Atlantis engineering team, and we have received no support from Naseman to make it happen.

In conclusion, I believe that BP is in violation of US Code Title 43, Chapter 29, regarding their lease production and operations schedule which called for completion of all drawings as built when the DC1 unit started up in December 2007. First, BP should report this failure to perform per their lease requirements to the Department of the Interior, Minerals Management Group. Second, they should work to immediately resolve the incomplete drawings problem to ensure the safety of their offshore operation. Third, they should reinstate my job, since I was retaliatory discharged in violation of Title 42, chapter36, subchapter 3 of the US code.

E-mail 43 of 61

Unknown

From: Kenneth Abbott [kwabbott@comcast.net]
Sent: Thursday, March 05, 2009 11:41 PM
To: 'clynch@swift-houston.com'; 'pasha.eatedali@ombudsmanecp.com'
Subject: FW: K Abbott meeting with Chris Lynch - additional info
Attachments: ATT00017.eml (172 KB); RE: Job Opportunity

Chris/Pasha – Please note the attached email from me to Lori Rektorik with Swift dated 7/6/08. Not only did I verbally tell Swift and BP that I wanted only a two years or longer position, I also put it in writing in this email before I was hired.

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Thursday, March 05, 2009 11:00 PM
To: 'pasha.eatedali@ombudsmanecp.com'
Subject: FW: K Abbott meeting with Chris Lynch

FYI Pasha...please note that I signed my contract with swift on 7/23/08, evidently the day after swift and bp signed their 6 month contract for me mentioned below. It is very apparent that both Swift's Kerri Walsh and Naseman of BP knew they were committing fraud to induce me in. I told both of them that I wanted a long term 2 year assignment before I signed and they both agreed this was two years or longer. Also, when I was advised by the bp computer system in January 2009 that my contract ended on 2/27/09, I asked Naseman what was going on, and for a copy of any contract with that new date of 2/27/09 on it and he refused to let me see it. He let me see all the other of my staff's contracts so why not mine? It was because he knew he was committing fraud and did not want to get caught at it...

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Thursday, March 05, 2009 2:08 PM
To: 'clynch@swift-houston.com'; 'Paul.Egner@bp.com'
Cc: 'kowrey@swift-houston.com'
Subject: FW: K Abbott meeting with Chris Lynch

Chris/Paul – I do not agree with your letter re my termination. My termination was a breach of the terms of my contract with you and I need to be paid for the remaining 18 months of my contract. Please advise when that will be done. Chris - Also, please advise when you will complete your investigation of my complaints of retaliatory discharge.

New information from Pasha Eatedali with the BP ombuds office confirms that both Swift and BP were fraudulent in my hiring and colluded to deceive me regarding the duration of my contract. Here are the details:

- I just talked with Pasha – BP ombudsman – and he informed me of the following: BP/Swift (Kerri Walsh) both signed a "contract services procurement requisition" dated 7/21/08 and a "release against the master agreement" dated 7/22/08 which spell out a 6 month contract term for me from 8/18/2008 to 2/27/2009. This is in direct conflict with the contract I signed with you for a 2 year term from 8/18/2008 to 8/18/2010. I was never made aware of this "other", shorter term contract with BP and Swift, and I think this shows collusion between both of you to commit fraud, to enduce me to sign with you for what appeared to be a long term contract, and is certainly a breach of my contract. Pasha stated that the fault for this lies with Swift, but I think you both are equally to blame. Also, can you please send me copies of these two agreements you signed with BP?
- As I have stated previously, the reason for my termination was not due to a slowdown of the Atlantis project and reduction in force, but was instead retaliation. As the ombudsman for BP stated in my chronology of events I sent you earlier (see yellow text, he was not buying the reduction in force reason either),

January 15, 2009

1. Swift Oil and Gas posts an employment opportunity for the position of "Project Services Lead" for a "MAJOR operator" that calls for a contract person to work on a "long-term Gulf of Mexico project." Kerri Walsh of Swift tells Ken Abbott that the position was for the BP GOM Atlantis, and that Bill Naseman has interviewed two candidates for the position. This is obviously an ad for Abbott's replacement and a contract position. Also, Naseman told Abbott and Eddie Antoine and Sim Powell (all managers in Naseman's group) in a meeting on 1/12/09 that he was also seeking to hire a senior cost engineer contractor for the topsides group for the Phase 2 Atlantis work. Why was Abbott not allowed to move into this position or even be considered for it?
    1. *Raises questions as to whether BP planned on hiring another contract employee to replace Mr. Abbott – shortly after Mr. Naseman had confronted Mr. Abbott about the incident with Mr. Clark. This job posting is in direct contrast to the information BP provided the OoO regarding the Project Services Lead position.*

-

From: Christopher Lynch [mailto:clynch@swift-houston.com]
Sent: Tuesday, February 24, 2009 3:03 PM
To: 'Kenneth Abbott'
Cc: kowrey@swift-houston.com
Subject: RE: K Abbott meeting with Chris Lynch

Ken, it was good meeting up with you. I will follow up with Parsha at BP. In the meantime here's the letter I discussed with you to confirm your Termination of Contract for Services.

Kind regards

Chris

Christopher Lynch | Area Director - USA

Direct +1 713 328 4566 | Main +1 713 328 4560 | Fax +1 713 328 4561 | Cell +1 832 755 9741

swift
oil and gas

This message is intended only for the stated addressee(s) and may be confidential. Access to this email by anyone else is unauthorised. Any opinions expressed in this email do not necessarily reflect the opinions of Swift Technical Group Holdings Limited, its subsidiary or associated companies.

www.swiftoilandgas.com

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Monday, February 23, 2009 2:07 PM
To: clynch@swift-houston.com
Cc: kowrey@swift-houston.com
Subject: K Abbott meeting with Chris Lynch

Chris/Kelly – tomorrow would be a good time for me to meet with Chris – say around 10AM – is that okay. Can you confirm and send me directions please...

From: Kelly Owrey [mailto:kowrey@swift-houston.com]
Sent: Monday, February 23, 2009 12:30 PM
To: 'Kenneth Abbott'
Cc: 'Christopher Lynch'
Subject: RE: Your investigation/Corrective Measures re my complaints of retaliatory discharge and breach of contract by BP
Importance: High

Hi Ken,

I just wanted to let you know I have sent this on to our Area Director, Chris Lynch (copied) to handle.

Chris would like to set up a meeting with you to discuss this further so please let him know when you are available.

Kind regards,

Kelly Owrey

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Saturday, February 14, 2009 12:34 AM
To: kowrey@swift-houston.com
Subject: FW: Your investigation/Corrective Measures re my complaints of retaliatory discharge and breach of contract by BP

Kelly – please note that ('pasha.eatedali@ombudsmanecp.com') is the ombudsman investigating my complaints for BP and has the same information I have sent you.

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Saturday, February 14, 2009 12:20 AM
To: 'kowrey@swift-houston.com'
Subject: FW: Your investigation/Corrective Measures re my complaints of retaliatory discharge and breach of contract by BP

Kelly – I am resending this because the previous email had some format errors...

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Saturday, February 14, 2009 12:13 AM
To: 'kowrey@swift-houston.com'
Subject: Your investigation/Corrective Measures re my complaints of retaliatory discharge and breach of contract by BP

Kelly - do you have any feedback for me yet regarding my complaint to you and Kerri Walsh regarding the retaliatory discharge and breach of contract by BP? FYI, I have also attached the detailed description of my charges given to BP and to Kerri (with some update information). Note the comments in yellow highlight - they are by the BP Ombudsman. Also, attached below is the EEOC guidance on the needed response by a staffing firm (same as required by the client) when discrimination/retaliation claims are made to them. I would like to make sure these actions are being taken on my behalf by Swift.

EEOC Guidance on Staffing Firms responsibility to respond to a complaint of discrimination/retaliation by one of

Staffing Firm: The firm is liable if it participates in the client's discrimination. For example, if the firm honors its client's request to remove a worker from a job assignment for a discriminatory reason and replace him or her with an individual outside the worker's protected class, the firm is liable for the discriminatory discharge. The firm also is liable if it knew or should have known about the client's discrimination and failed to undertake prompt corrective measures within its control.33

The adequacy of corrective measures taken by a staffing firm depends on the particular facts. Corrective measures may include, but are not limited to: 1) ensuring that the client is aware of the alleged misconduct; 2) asserting the firm's commitment to protect its workers from unlawful harassment and other forms of prohibited discrimination; 3) insisting that prompt investigative and corrective measures be undertaken; and 4) affording the worker an opportunity, if (s)he so desires, to take a different job assignment at the same rate of pay. The staffing firm should not assign other workers

to that work site unless the client has undertaken the necessary corrective and preventive measures to ensure that the discrimination will not recur. Otherwise, the staffing firm will be liable along with the client if a worker later assigned to that client is subjected to similar misconduct.34

From: Kelly Owrey [mailto:kowrey@swift-houston.com]
Sent: Tuesday, February 10, 2009 10:15 AM
To: 'Kenneth Abbott'; Paul.Egner@bp.com
Subject: RE: Ken Abbott's Employment contract

All,

We will look into this and revert back to you both as soon as possible.

Thanks,

Kelly Owrey

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Tuesday, February 10, 2009 9:21 AM
To: Paul.Egner@bp.com
Cc: 'Kelly Owrey'
Subject: Ken Abbott's Employment contract

Paul – This is to advise that I was discharged today. Since you are the Sourcing contract administrator for BP Atlantis, I am writing to inform you of a breach of my employment contract by BP. Because the contract was breached by Bill Naseman of BP, and as per the Texas payday law, I am requesting full payment of the approximately 18 months remaining on my 2 year contract within six days of my last day on the payroll (2/10/09). The specifics of the breach are detailed below. I have also attached my signed contract for your review.

Kelly – By copy of this email, I am also requesting that you enforce this contract and act to resolve this breach as the contracts administrator for Swift.

- I originally signed a two year contract with BP. During the week of 1/6/09, I discovered that the material terms of that contract had been illegally changed by Bill Naseman. He reduced the term of the contract to six months with a new completion date of 2/27/09, without my agreement or signature to the contract. During the week of 1/6/09, I received an email from the BP computer system admin, advising me that my contract end date was now 2/27/09 and I would need to get authorization to renew the end date or my access to the system would be denied on that date. I emailed and called Bill Naseman to find out what was going on during that week and got no answer. On 2/4/09, as per the BP ombudsman Billie Garde, in a meeting with Naseman and Simon Todd to discuss my retaliatory discharge, Simon Todd told the ombudsman that my contract end date was 2/27/09 instead of the original 8/18/2010.
- Since my termination was a retaliatory discharge by Naseman, (and there is substantial evidence that it was retaliation) the contract has also been violated and BP is in breach, because the contract calls for no retaliatory behavior, and because the dismissal violated US employment laws. Naseman terminated me in retaliation for my trying to resolve Becky Cavalier's complaint to me of harassment and discrimination by Alan Clark.

Unknown

From: ricoh_copier@swift-houston.com
Sent: Wednesday, February 25, 2009 1:59 AM
To: Chris

Attachments: 20090225025912548.pdf

20090225025912548.pdf (167 KB)...

This E-mail was sent from "RNPDDDBDE" (Aficio MP C4500).

Scan Date: 02.25.2009 02:59:12 (-0500)
Queries to: ricoh_copier@swift-houston.com

swift
oil and gas

Swift Technical Services, LLC
3050 Post Oak Blvd., Suite 1450
Houston, Texas 77056
t: +1 713 328 4560
f: +1 713 328 4561
e: info@swift-houston.com
www.swiftoilandgas.com

February 24, 2009

Kenneth Abbott
9726 Refugio Court
Houston, Texas 77064

Dear Mr. Abbott

Re: Termination of Contract for Services

Swift received information from you regarding your Termination of Contract for Services (the "Contract"). I wish to confirm the events which led to the termination of your Contract.

Swift terminated your Contract for Services with BP America Production Company due to the slowdown on the BP Atlantis project, Phase 2, to which you were assigned. As a result of the downturn in the oil and gas market, BP re-structured the project team and consolidated the two Project Services Lead positions into one position.

Furthermore, Section 6.1 of the Contract for Services executed by you and Swift provides that Swift "may, at any time, with or without cause, terminate this contract, by giving five (5) days written notice to Contractor specifying the date of termination." Accordingly, Swift provided you with proper notice to terminate your Contract for Services.

Yours sincerely,

Chris Lynch
Area Director - USA

Unknown

From: Kenneth Abbott [kwabbott@comcast.net]

Sent: Sunday, July 06, 2008 6:16 PM

To: 'Lori Rektorik'

Subject: RE: Job Opportunity

Lori I am primarily looking for permanent positions in Houston only but will consider contract in Houston depending on the rate and duration(2 years)...

From: Lori Rektorik [mailto:lrektorik@swift-houston.com]
Sent: Sunday, July 06, 2008 6:28 PM
To: kwabbott@comcast.net
Subject: Job Opportunity

Kenneth,

Thank you for your interest in the Scheduler position I am currently recruiting for. I think your experience looks great and I would love to get your information over to our clients ASAP. We actually have several opportunities available in Planning/Scheduling and Cost, so we might be able to get your information over for several different opportunities.

I have listed a few of the opportunities below for your review:

Position 1:

Location:	Houston, TX and then possibly Pascagoula, MS
Client:	Chevron
Project:	Pascagoula Refinery Expansion Project
Position:	**Planner/Scheduler**
Rate:	To be proposed by candidate – day rate
Rotation:	9/80
Duration:	Long term (2-4 years)
Start Date:	Immediately

Chevron is looking for someone with extensive experience in planning/scheduling, who has taken on leadership roles, particularly over several projects at one time. The Lead Scheduler will plan and schedule major refinery projects and interface with other projects in the Pascagoula, MS refinery. Extensive Primavera experience is a must (P5 or P6 preferred), and a strong construction background is preferred. This position will start in the Houston area and then possibly move to Pascagoula, MS.

Position 2:

Location:	Angola
Client:	Chevron
Project:	Angola LNG
Position:	**Senior Planner/Scheduler**
Rate:	To be proposed by candidate (considering 15% Angolan tax)
Rotation:	28:28 rotation
Duration:	Long term (3-4 years)
Start Date:	ASAP

Duties include:
-Manage planning and scheduling systems for large complex projects
-Design and implement progress and schedule control system for project
-Develop reporting methods and generate reports on regular basis
-Supervise assigned project controls personnel

Position 3:

Location:	Houston, TX
Client:	BP
Project:	Thunderhorse

Position:	**Senior Planner/Scheduler**
Rate:	To be proposed by candidate
Rotation:	9/80
Duration:	Long term (1-1.5 years)
Start Date:	ASAP

We don't have a job description for this role yet, however they let us know they are looking for a Project Controls guy with extensive experience in Planning/Scheduling. They are looking for someone with Shutdown experience as well.

Position 4:

Location:	Prudhoe Bay, Alaska
Client:	BP
Project:	Greater Prudhoe Bay SPU
Position:	**Sr Integrated Facility Scheduler**
Rate:	To be proposed by candidate – day rate for every day worked
Rotation:	1 week:1 week or 2 weeks:2 weeks
Duration:	Long term (1+ years)
Start Date:	ASAP

I have attached the provided job description for your review.

Please send me an updated copy of your resume at your earliest convenience. Please also advise on your availability and a desired day rate. I look forward to your reply.

Kind regards,

Lori Rektorik
Recruitment Consultant
Swift Technical Services LLC
Main: +1 713 328 4560
Direct: +1 713 579 0309
Cell: +1 832 495 1705
Fax: +1 713 328 4561
www.swiftoilandgas.com

This message is intended only for the stated addressee(s) and may be confidential. Access to this email by anyone else is unauthorised. Any opinions expressed in this email do not necessarily reflect the opinions of Swift Technical Group Limited, its subsidiary or associated companies.
Any unauthorised disclosure, use or dissemination, either whole or in part is prohibited. If you are not the intended recipient of this message, please notify the sender immediately.

E-mail 44 of 61

Unknown

From: Kenneth Abbott [kwabbott@comcast.net]
Sent: Monday, March 09, 2009 3:27 PM
To: 'bprecruiting@bp.com'
Cc: 'pasha.eatedali@ombudsmanecp.com'
Subject: recruiting fraud by Swift Technical Services and BP and my retaliatory discharge
Attachments: K Abbott meeting with Chris Lynch - additional info (242 KB)

BP recruiting office:

As per the instructions on your BP career site, I wish to report a recruiting scam being executed by both BP employee (Bill Naseman) and one of your contract employment agencies, Swift Technical Services in Houston. I have reported this recruitment fraud to your ombuds office, but they blame the contractor company Swift. BP is equally at fault as my co-employer and has full knowledge of and is participating in the scam. So far, Swift and BP refuse to do anything about it. The attached email gives the specifics of the recruiting scam, and I am requesting that you act to stop this fraud and to correct the wrong that has been done to me by paying me for the 18 months of salary still due me.

Here is a summary of the fraud:

I answered an add on the internet for a long term assignment (2+ years). On July 6, 2008 I told Swift by email to Lori Retorik that I was only looking for long term 2 year assignments, and I was assured by Lori and Kerri Walsh that was the case. I have been told by Pasha Eatedali that on 7/22/08, Kerri signed a contract with BP (Naseman) for a six month assignment for me, (she never told me about this other contract or its short duration). Then, one day later, Kerri Walsh got me to sign a 2 year assignment contract with Swift for this BP project. At that time, Kerri had full knowledge that she was committing fraud because there was no two year assignment. The assignment was only guaranteed for six months (see attached email). When I interviewed with Bill Naseman before I signed the 2 year contract, I was also told by him that this was a 2+ years assignment. During my employment, he also continued to tell me that he was going to make me permanent staff in January 09. Also, when I was advised by the bp computer system in January 2009 that my contract ended on 2/27/09, I asked Naseman what was going on, and sent him 2 emails requesting an explanation or a copy of any contract with that new date of 2/27/09 on it and he refused to let me see it. He let me see all the other of my staff's contracts so why not mine? It was because he knew he was committing fraud and did not want to get caught at it...

On 2/3/09, I was terminated, and BP said my contract was up on 2/27/09 and I was a reduction in force due to job slowdown. This is not true. I was wrongfully discharged as a retaliation by BP for my trying to protect a female employee of mine who was being discriminated against and harassed by Alan Clark, another BP employee and also because I had blown the whistle on fraudulent, incomplete engineering activities by BP.

Unknown

From: Kenneth Abbott [kwabbott@comcast.net]
Sent: Thursday, March 05, 2009 11:41 PM
To: clynch@swift-houston.com; pasha.eatedali@ombudsmanecp.com
Subject: FW: K Abbott meeting with Chris Lynch - additional info
Attachments: ATT00043.eml (173 KB); Job Opportunity (22.0 KB)

Chris/Pasha – Please note the attached email from me to Lori Rektorik with Swift dated 7/6/08. Not only did I verbally tell Swift and BP that I wanted only a two years or longer position, I also put it in writing in this email before I was hired.

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Thursday, March 05, 2009 11:00 PM
To: 'pasha.eatedali@ombudsmanecp.com'
Subject: FW: K Abbott meeting with Chris Lynch

FYI Pasha...please note that I signed my contract with swift on 7/23/08, evidently the day after swift and bp signed their 6 month contract for me mentioned below. It is very apparent that both Swift's Kerri Walsh and Naseman of BP knew they were committing fraud to induce me in. I told both of them that I wanted a long term 2 year assignment before I signed and they both agreed this was two years or longer. Also, when I was advised by the bp computer system in January 2009 that my contract ended on 2/27/09, I asked Naseman what was going on, and for a copy of any contract with that new date of 2/27/09 on it and he refused to let me see it. He let me see all the other of my staff's contracts so why not mine? It was because he knew he was committing fraud and did not want to get caught at it...

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Thursday, March 05, 2009 2:08 PM
To: 'clynch@swift-houston.com'; 'Paul.Egner@bp.com'
Cc: 'kowrey@swift-houston.com'
Subject: FW: K Abbott meeting with Chris Lynch

Chris/Paul – I do not agree with your letter re my termination. My termination was a breach of the terms of my contract with you and I need to be paid for the remaining 18 months of my contract. Please advise when that will be done. Chris - Also, please advise when you will complete your investigation of my complaints of retaliatory discharge.

New information from Pasha Eatedali with the BP ombuds office confirms that both Swift and BP were fraudulent in my hiring and colluded to deceive me regarding the duration of my contract. Here are the details:

- I just talked with Pasha – BP ombudsman – and he informed me of the following: BP/Swift (Kerri Walsh) both signed a "contract services procurement requisition" dated 7/21/08 and a "release against the master agreement" dated 7/22/08 which spell out a 6 month contract term for me from 8/18/2008 to 2/27/2009. This is in direct conflict with the contract I signed with you for a 2 year term from 8/18/2008 to 8/18/2010. I was never made aware of this "other", shorter term contract with BP and Swift, and I think this shows collusion between both of you to commit fraud, to enduce me to sign with you for what appeared to be a long term contract, and is certainly a breach of my contract. Pasha stated that the fault for this lies with Swift, but I think you both are equally to blame. Also, can you please send me copies of these two agreements you signed with BP?
- As I have stated previously, the reason for my termination was not due to a slowdown of the Atlantis project and reduction in force, but was instead retaliation. As the ombudsman for BP stated in my chronology of events I sent you earlier (see yellow text, he was not buying the reduction in force reason either).

January 15, 2009

1. Swift Oil and Gas posts an employment opportunity for the position of "Project Services Lead" for a "MAJOR operator" that calls for a contract person to work on a "long-term Gulf of Mexico project." Kerri Walsh of Swift tells Ken Abbott that the position was for the BP GOM Atlantis, and that Bill Naseman has interviewed two candidates for the position. This is obviously an ad for Abbott's replacement and a contract position. Also, Naseman told Abbott and Eddie Antoine and Sim Powell (all managers in Naseman's group) in a meeting on 1/12/09 that he was also seeking to hire a senior cost engineer contractor for the topsides group for the Phase 2 Atlantis work. Why was Abbott not allowed to move into this position or even be considered for it?
    1. *Raises questions as to whether BP planned on hiring another contract employee to replace Mr. Abbott – shortly after Mr. Naseman had confronted Mr. Abbott about the incident with Mr. Clark. This job posting is in direct contrast to the information BP provided the OoO regarding the Project Services Lead position.*

•

From: Christopher Lynch [mailto:clynch@swift-houston.com]
Sent: Tuesday, February 24, 2009 3:03 PM
To: 'Kenneth Abbott'
Cc: kowrey@swift-houston.com
Subject: RE: K Abbott meeting with Chris Lynch

Ken, it was good meeting up with you. I will follow up with Parsha at BP. In the meantime here's the letter I discussed with you to confirm your Termination of Contract for Services.

Kind regards

Chris

Christopher Lynch | Area Director - USA

Direct +1 713 328 4566 | Main +1 713 328 4560 | Fax +1 713 328 4561 | Cell +1 832 755 9741

swift
oil and gas

This message is intended only for the stated addressee(s) and may be confidential. Access to this email by anyone else is unauthorised. Any opinions expressed in this email do not necessarily reflect the opinions of Swift Technical Group Holdings Limited, its subsidiary or associated companies.

www.swiftoilandgas.com

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Monday, February 23, 2009 2:07 PM
To: clynch@swift-houston.com
Cc: kowrey@swift-houston.com
Subject: K Abbott meeting with Chris Lynch

Chris/Kelly – tomorrow would be a good time for me to meet with Chris – say around 10AM – is that okay. Can you confirm and send me directions please...

From: Kelly Owrey [mailto:kowrey@swift-houston.com]
Sent: Monday, February 23, 2009 12:30 PM
To: 'Kenneth Abbott'
Cc: 'Christopher Lynch'
Subject: RE: Your investigation/Corrective Measures re my complaints of retaliatory discharge and breach of contract by BP
Importance: High

Hi Ken,

I just wanted to let you know I have sent this on to our Area Director, Chris Lynch (copied) to handle.

Chris would like to set up a meeting with you to discuss this further so please let him know when you are available.

Kind regards,

Kelly Owrey

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Saturday, February 14, 2009 12:34 AM
To: kowrey@swift-houston.com
Subject: FW: Your investigation/Corrective Measures re my complaints of retaliatory discharge and breach of contract by BP

Kelly – please note that ('pasha.eatedali@ombudsmanecp.com') is the ombudsman investigating my complaints for BP and has the same information I have sent you.

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Saturday, February 14, 2009 12:20 AM
To: 'kowrey@swift-houston.com'
Subject: FW: Your investigation/Corrective Measures re my complaints of retaliatory discharge and breach of contract by BP

Kelly – I am resending this because the previous email had some format errors...

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Saturday, February 14, 2009 12:13 AM
To: 'kowrey@swift-houston.com'
Subject: Your investigation/Corrective Measures re my complaints of retaliatory discharge and breach of contract by BP

Kelly - do you have any feedback for me yet regarding my complaint to you and Kerri Walsh regarding the retaliatory discharge and breach of contract by BP? FYI, I have also attached the detailed description of my charges given to BP and to Kerri (with some update information). Note the comments in yellow highlight - they are by the BP Ombudsman. Also, attached below is the EEOC guidance on the needed response by a staffing firm (same as required by the client) when discrimination/retaliation claims are made to them. I would like to make sure these actions are being taken on my behalf by Swift.

EEOC Guidance on Staffing Firms responsibility to respond to a complaint of discrimination/retaliation by one of

Staffing Firm: The firm is liable if it participates in the client's discrimination. For example, if the firm honors its client's request to remove a worker from a job assignment for a discriminatory reason and replace him or her with an individual outside the worker's protected class, the firm is liable for the discriminatory discharge. The firm also is liable if it knew or should have known about the client's discrimination and failed to undertake prompt corrective measures within its control.33

The adequacy of corrective measures taken by a staffing firm depends on the particular facts. Corrective measures may include, but are not limited to: 1) ensuring that the client is aware of the alleged misconduct; 2) asserting the firm's commitment to protect its workers from unlawful harassment and other forms of prohibited discrimination; 3) insisting that prompt investigative and corrective measures be undertaken; and 4) affording the worker an opportunity, if (s)he so desires, to take a different job assignment at the same rate of pay. The staffing firm should not assign other workers

to that work site unless the client has undertaken the necessary corrective and preventive measures to ensure that the discrimination will not recur. Otherwise, the staffing firm will be liable along with the client if a worker later assigned to that client is subjected to similar misconduct.34

From: Kelly Owrey [mailto:kowrey@swift-houston.com]
Sent: Tuesday, February 10, 2009 10:15 AM
To: 'Kenneth Abbott'; Paul.Egner@bp.com
Subject: RE: Ken Abbott's Employment contract

All,

We will look into this and revert back to you both as soon as possible.

Thanks,

Kelly Owrey

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Tuesday, February 10, 2009 9:21 AM
To: Paul.Egner@bp.com
Cc: 'Kelly Owrey'
Subject: Ken Abbott's Employment contract

Paul – This is to advise that I was discharged today. Since you are the Sourcing contract administrator for BP Atlantis, I am writing to inform you of a breach of my employment contract by BP. Because the contract was breached by Bill Naseman of BP, and as per the Texas payday law, I am requesting full payment of the approximately 18 months remaining on my 2 year contract within six days of my last day on the payroll (2/10/09). The specifics of the breach are detailed below. I have also attached my signed contract for your review.

Kelly – By copy of this email, I am also requesting that you enforce this contract and act to resolve this breach as the contracts administrator for Swift.

- I originally signed a two year contract with BP. During the week of 1/6/09, I discovered that the material terms of that contract had been illegally changed by Bill Naseman. He reduced the term of the contract to six months with a new completion date of 2/27/09, without my agreement or signature to the contract. During the week of 1/6/09, I received an email from the BP computer system admin, advising me that my contract end date was now 2/27/09 and I would need to get authorization to renew the end date or my access to the system would be denied on that date. I emailed and called Bill Naseman to find out what was going on during that week and got no answer. On 2/4/09, as per the BP ombudsman Billie Garde, in a meeting with Naseman and Simon Todd to discuss my retaliatory discharge, Simon Todd told the ombudsman that my contract end date was 2/27/09 instead of the original 8/18/2010.
- Since my termination was a retaliatory discharge by Naseman, (and there is substantial evidence that it was retaliation) the contract has also been violated and BP is in breach, because the contract calls for no retaliatory behavior, and because the dismissal violated US employment laws. Naseman terminated me in retaliation for my trying to resolve Becky Cavailer's complaint to me of harassment and discrimination by Alan Clark.

Unknown

From: ricoh_copier@swift-houston.com
Sent: Wednesday, February 25, 2009 1:59 AM
To: Chris
Attachments: 20090225025912548.pdf

This E-mail was sent from "RNPDDDBDE" (Aficio MP C4500).

Scan Date: 02.25.2009 02:59:12 (-0500)
Queries to: ricoh_copier@swift-houston.com

swift oil and gas

Swift Technical Services, LLC
3050 Post Oak Blvd., Suite 1450
Houston, Texas 77056
t: +1 713 328 4560
f: +1 713 328 4561
e: info@swift-houston.com
www.swiftoilandgas.com

February 24, 2009

Kenneth Abbott
9726 Refugio Court
Houston, Texas 77064

Dear Mr. Abbott

Re: Termination of Contract for Services

Swift received information from you regarding your Termination of Contract for Services (the "Contract"). I wish to confirm the events which led to the termination of your Contract.

Swift terminated your Contract for Services with BP America Production Company due to the slowdown on the BP Atlantis project, Phase 2, to which you were assigned. As a result of the downturn in the oil and gas market, BP re-structured the project team and consolidated the two Project Services Lead positions into one position.

Furthermore, Section 6.1 of the Contract for Services executed by you and Swift provides that Swift "may, at any time, with or without cause, terminate this contract, by giving five (5) days written notice to Contractor specifying the date of termination." Accordingly, Swift provided you with proper notice to terminate your Contract for Services.

Yours sincerely,

Chris Lynch
Area Director - USA

Unknown

From: Kenneth Abbott [kwabbott@comcast.net]

Sent: Sunday, July 06, 2008 6:16 PM

To: 'Lori Rektorik'

Subject: RE: Job Opportunity

Lori I am primarily looking for permanent positions in Houston only but will consider contract in Houston depending on the rate and duration(2 years)...

From: Lori Rektorik [mailto:lrektorik@swift-houston.com]
Sent: Sunday, July 06, 2008 6:28 PM
To: kwabbott@comcast.net
Subject: Job Opportunity

Kenneth,

Thank you for your interest in the Scheduler position I am currently recruiting for. I think your experience looks great and I would love to get your information over to our clients ASAP. We actually have several opportunities available in Planning/Scheduling and Cost, so we might be able to get your information over for several different opportunities.

I have listed a few of the opportunities below for your review:

Position 1:

Location:	Houston, TX and then possibly Pascagoula, MS
Client:	Chevron
Project:	Pascagoula Refinery Expansion Project
Position:	**Planner/Scheduler**
Rate:	To be proposed by candidate – day rate
Rotation:	9/80
Duration:	Long term (2-4 years)
Start Date:	Immediately

Chevron is looking for someone with extensive experience in planning/scheduling, who has taken on leadership roles, particularly over several projects at one time. The Lead Scheduler will plan and schedule major refinery projects and interface with other projects in the Pascagoula, MS refinery. Extensive Primavera experience is a must (P5 or P6 preferred), and a strong construction background is preferred. This position will start in the Houston area and then possibly move to Pascagoula, MS.

Position 2:

Location:	Angola
Client:	Chevron
Project:	Angola LNG
Position:	**Senior Planner/Scheduler**
Rate:	To be proposed by candidate (considering 15% Angolan tax)
Rotation:	28:28 rotation
Duration:	Long term (3-4 years)
Start Date:	ASAP

Duties include:
-Manage planning and scheduling systems for large complex projects
-Design and implement progress and schedule control system for project
-Develop reporting methods and generate reports on regular basis
-Supervise assigned project controls personnel

Position 3:

Location:	Houston, TX
Client:	BP
Project:	Thunderhorse

Position:	**Senior Planner/Scheduler**
Rate:	To be proposed by candidate
Rotation:	9/80
Duration:	Long term (1-1.5 years)
Start Date:	ASAP

We don't have a job description for this role yet, however they let us know they are looking for a Project Controls guy with extensive experience in Planning/Scheduling. They are looking for someone with Shutdown experience as well.

Position 4:	
Location:	Prudhoe Bay, Alaska
Client:	BP
Project:	Greater Prudhoe Bay SPU
Position:	**Sr Integrated Facility Scheduler**
Rate:	To be proposed by candidate – day rate for every day worked
Rotation:	1 week:1 week or 2 weeks:2 weeks
Duration:	Long term (1+ years)
Start Date:	ASAP

I have attached the provided job description for your review.

Please send me an updated copy of your resume at your earliest convenience. Please also advise on your availability and a desired day rate. I look forward to your reply.

Kind regards,

Lori Rektorik
Recruitment Consultant
Swift Technical Services LLC
Main: +1 713 328 4560
Direct: +1 713 579 0309
Cell: +1 832 495 1705
Fax: +1 713 328 4561
www.swiftoilandgas.com

This message is intended only for the stated addressee(s) and may be confidential. Access to this email by anyone else is unauthorised. Any opinions expressed in this email do not necessarily reflect the opinions of Swift Technical Group Limited, its subsidiary or associated companies.
Any unauthorised disclosure, use or dissemination, either whole or in part is prohibited. If you are not the intended recipient of this message, please notify the sender immediately.

E-mail 45 of 61

Unknown

From: Kenneth Abbott [kwabbott@comcast.net]
Sent: Monday, March 09, 2009 1:01 PM
To: 'Earl_Devaney@doioig.gov'
Subject: My complaint regarding BP failure to perform on their Gulf of Mexico Atlantis DC1 lease and their retaliatory discharge of me
Attachments: FW: Atlantis Document Numbering Procedure and Drawing Reviews/Approval by the leads; Atlantis Document Control Proposal - Path Forward (688 KB)

Dear Mr. Devaney:

Attached below is a complaint I have made to the ombuds office at BP regarding my retaliatory discharge in February 2009 for standing up for a female employee who was being discriminated against and harassed by another male employee, and for having blown the whistle on unsafe, incomplete, and fraudulent practices by certain members of the BP engineering team on their Atlantis project DC1 platform which is currently producing in the Gulf of Mexico. Since the Department of Interior administers the leases for this offshore production through its MMS office, I am writing to advise you that even though I have complained about this incomplete engineering in the past, BP has not corrected the problem and the unit is still producing without "as-built" drawings as of 12/08, (and up to this date to the best of my knowledge).

I know that the Obama administration has promised to clean up contract and lease fraud and incomplete and dangerous performance. I believe that since this unit has been operating since December 2007 that the final, as built engineering drawings should have been issued then to ensure safe operation by the site. The BP project execution plan calls for as built drawings at startup (see email below) and I am sure that their site development and production plan issued to you as part of the lease agreement also called for completion of all engineering at startup. This has not happened and BP has taken a "we don't have to fix it" attitude and got rid of me for trying to highlight the problem and get it fixed by the engineers.

Please intervene with BP to get these engineering drawings completed and to operations to prevent any major offshore failures, and also please enforce the law regarding non-retaliation against employees on offshore projects.

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Wednesday, March 04, 2009 10:47 AM
To: 'Pasha.eatedali@ombudsmanecp.com'
Subject: More information for your investigation

Pasha – I have attached below a further complaint against BP for your investigation:

As I have previously stated, I believe that Bill Naseman has retaliated against me with my wrongful termination primarily because I stood up for a female employee who was being discriminated against and harassed by Alan Clark. I also believe that a secondary reason for my termination was retaliation because of my blowing the whistle during November 08 through January 09 regarding unsafe practices in offshore production unit drawing correctness and completion in violation of US Code, Title 43, chapters 29 and 36, public policy, and BP procedures on the Atlantis project.

Specifically, during November 08, I advised Bill Naseman and the project manager Bill Broman, as well as the project team, both verbally and then by email (see attached email – Atlantis document control proposal) that I and Tinika Curtis (Document Controller) had observed a failure by certain project lead engineers (John Schwebel, Benny Kirkham, and John Hughes) to ensure the proper coding of drawings they approved, (i.e. which sector did the particular equipment item belong to) and the failure to issue "as built drawings" to operations for the DC1 offshore production unit that had been complete and producing for a year. As shown in the email,

the attachments show a record of the drawing status, and you can see in the revision status row, that many drawings are not issued as revision 0), or As Built, and most do not have "as built" stamped on them as required by GOM drawing procedures. It is critical that offshore operators have a complete set of as-built drawings when they start up a unit for their correct and safe assessment of operating problems on this unit. Yet even though the DC1 offshore wells had been operating since December 07, the operations group still did not have as-built drawings as of December 08. Tinika and I discussed this problem at length with the leads and project management and Bill Naseman. We prepared a plan to remedy this situation but it met much resistance and complaints from the above lead engineers on the project.

In particular, in Bill Broman's staff meeting on December 2, 2008 , John Hughes, Benny Kirkham, and John Schwebel questioned why the leads needed to check the drawings for correctness when they signed them off, and why did they need to push for final as-built drawings. They were very argumentative with me about this, and they also asked what procedure said they had to do these things. I responded that it was BP procedure as outlined in our Project Execution plan to do so and every oil company required their lead engineers to review drawings for accuracy and to obtain as-built final drawings from all vendors for operations before startup (see attached email - approval by the leads, which I sent them after the meeting on 12/17/08 with the procedure attached, which had been previously issued to them at the beginning of the project). Section 6.2 of the Atlantis Project Execution Plan states the following:

As-Built Documentation
The Lead Engineer for each discipline area will ensure that all technical documentation is updated to reflect the as-built condition of the equipment prior to deployment to the field.

I also told them that when the DC1 unit started production one year ago, that final "as built" drawings should have been turned over to offshore operations, and they had not been, and that must be remedied as soon as possible.

The leads have been very unhappy with the need to get these drawings correct and issued as built to operations, and they have complained to Naseman and Bill Broman, the PM. In a staff meeting with Bill Naseman during December 08, I tried to discuss the subject of these leads refusing to properly review drawings and assure they were correct and final issued, and Bill Naseman did not want to discuss it or do anything to resolve it, he was too worried about keeping the good old boys happy. Several other staff members heard my comments, including Eddie Antoine, John Vernor, and Frank Schoffield.

When Bill Naseman met with me on 1/12/09 to blame me for Alan Clark's departure, he also said he had been told by the leads that I was too aggressive in getting the engineers to correct their drawings and get them finalized as built and to operations. I responded that I did not think it was too aggressive to try and get final as-built correct drawings issued to operations after the unit had been in operation for over a year (since December 07). I believe that Naseman was more concerned in covering up for the good old boys (the BP leads) and keeping them happy, than he was in doing the right thing for BP. Ron Berger is the operations manager on the Atlantis project and he is aware of this problem (since he has not received any DC1 as-built drawings) and Tinika and I met with him in early January 09 to discuss the problem with him and advise our plan to resolve this unsafe situation.

To my knowledge, operations still does not have as-built final correct drawings for DC1, nor has there been any progress on the North Flank as-built drawings, which is scheduled to start up in mid-year 2009. I have also advised Naseman and the project leads/manager that we need a drawing schedule for these as-built drawings from the vendors but these leads (Hughes, Schwebel, Kirkham) refuse to ask the vendors for any drawing schedules, so how can they know when or if these as-built drawings will be done. BP project execution policy also calls for a

drawing tracking schedule on all projects, and that is being ignored by the Atlantis engineering team, and we have received no support from Naseman to make it happen.

In conclusion, I believe that BP is in violation of US Code Title 43, Chapter 29, regarding their lease production and operations schedule which called for completion of all drawings as built when the DC1 unit started up in December 2007. First, BP should report this failure to perform per their lease requirements to the Department of the Interior, Minerals Management Group. Second, they should work to immediately resolve the incomplete drawings problem to ensure the safety of their offshore operation. Third, they should reinstate my job, since I was retaliatory discharged in violation of Title 42, chapter36, subchapter 3 of the US code.

Unknown

From: Kenneth Abbott [kwabbott@comcast.net]
Sent: Monday, March 09, 2009 1:01 PM
To: 'Earl_Devaney@doioig.gov'
Subject: My complaint regarding BP failure to perform on their Gulf of Mexico Atlantis DC1 lease and their retaliatory discharge of me
Attachments: FW: Atlantis Document Numbering Procedure and Drawing Reviews/Approval by the leads; Atlantis Document Control Proposal - Path Forward (688 KB)

Dear Mr. Devaney:

Attached below is a complaint I have made to the ombuds office at BP regarding my retaliatory discharge in February 2009 for standing up for a female employee who was being discriminated against and harassed by another male employee, and for having blown the whistle on unsafe, incomplete, and fraudulent practices by certain members of the BP engineering team on their Atlantis project DC1 platform which is currently producing in the Gulf of Mexico. Since the Department of Interior administers the leases for this offshore production through its MMS office, I am writing to advise you that even though I have complained about this incomplete engineering in the past, BP has not corrected the problem and the unit is still producing without "as-built" drawings as of 12/08, (and up to this date to the best of my knowledge).

I know that the Obama administration has promised to clean up contract and lease fraud and incomplete and dangerous performance. I believe that since this unit has been operating since December 2007 that the final, as built engineering drawings should have been issued then to ensure safe operation by the site. The BP project execution plan calls for as built drawings at startup (see email below) and I am sure that their site development and production plan issued to you as part of the lease agreement also called for completion of all engineering at startup. This has not happened and BP has taken a "we don't have to fix it" attitude and got rid of me for trying to highlight the problem and get it fixed by the engineers.

Please intervene with BP to get these engineering drawings completed and to operations to prevent any major offshore failures, and also please enforce the law regarding non-retaliation against employees on offshore projects.

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Wednesday, March 04, 2009 10:47 AM
To: 'Pasha.eatedali@ombudsmanecp.com'
Subject: More information for your investigation

Pasha – I have attached below a further complaint against BP for your investigation:

As I have previously stated, I believe that Bill Naseman has retaliated against me with my wrongful termination primarily because I stood up for a female employee who was being discriminated against and harassed by Alan Clark. I also believe that a secondary reason for my termination was retaliation because of my blowing the whistle during November 08 through January 09 regarding unsafe practices in offshore production unit drawing correctness and completion in violation of US Code, Title 43, chapters 29 and 36, public policy, and BP procedures on the Atlantis project.

Specifically, during November 08, I advised Bill Naseman and the project manager Bill Broman, as well as the project team, both verbally and then by email (see attached email – Atlantis document control proposal) that I and Tinika Curtis (Document Controller) had observed a failure by certain project lead engineers (John Schwebel, Benny Kirkham, and John Hughes) to ensure the proper coding of drawings they approved, (i.e. which sector did the particular equipment item belong to) and the failure to issue "as built drawings" to operations for the DC1 offshore production unit that had been complete and producing for a year. As shown in the email,

the attachments show a record of the drawing status, and you can see in the revision status row, that many drawings are not issued as revision 0), or As Built, and most do not have "as built" stamped on them as required by GOM drawing procedures. It is critical that offshore operators have a complete set of as-built drawings when they start up a unit for their correct and safe assessment of operating problems on this unit. Yet even though the DC1 offshore wells had been operating since December 07, the operations group still did not have as-built drawings as of December 08. Tinika and I discussed this problem at length with the leads and project management and Bill Naseman. We prepared a plan to remedy this situation but it met much resistance and complaints from the above lead engineers on the project.

In particular, in Bill Broman's staff meeting on December 2, 2008 , John Hughes, Benny Kirkham, and John Schwebel questioned why the leads needed to check the drawings for correctness when they signed them off, and why did they need to push for final as-built drawings. They were very argumentative with me about this, and they also asked what procedure said they had to do these things. I responded that it was BP procedure as outlined in our Project Execution plan to do so and every oil company required their lead engineers to review drawings for accuracy and to obtain as-built final drawings from all vendors for operations before startup (see attached email - approval by the leads, which I sent them after the meeting on 12/17/08 with the procedure attached, which had been previously issued to them at the beginning of the project). Section 6.2 of the Atlantis Project Execution Plan states the following:

As-Built Documentation
The Lead Engineer for each discipline area will ensure that all technical documentation is updated to reflect the as-built condition of the equipment prior to deployment to the field.

I also told them that when the DC1 unit started production one year ago, that final "as built" drawings should have been turned over to offshore operations, and they had not been, and that must be remedied as soon as possible.

The leads have been very unhappy with the need to get these drawings correct and issued as built to operations, and they have complained to Naseman and Bill Broman, the PM. In a staff meeting with Bill Naseman during December 08, I tried to discuss the subject of these leads refusing to properly review drawings and assure they were correct and final issued, and Bill Naseman did not want to discuss it or do anything to resolve it, he was too worried about keeping the good old boys happy. Several other staff members heard my comments, including Eddie Antoine, John Vernor, and Frank Schoffield.

When Bill Naseman met with me on 1/12/09 to blame me for Alan Clark's departure, he also said he had been told by the leads that I was too aggressive in getting the engineers to correct their drawings and get them finalized as built and to operations. I responded that I did not think it was too aggressive to try and get final as-built correct drawings issued to operations after the unit had been in operation for over a year (since December 07). I believe that Naseman was more concerned in covering up for the good old boys (the BP leads) and keeping them happy, than he was in doing the right thing for BP. Ron Berger is the operations manager on the Atlantis project and he is aware of this problem (since he has not received any DC1 as-built drawings) and Tinika and I met with him in early January 09 to discuss the problem with him and advise our plan to resolve this unsafe situation.

To my knowledge, operations still does not have as-built final correct drawings for DC1, nor has there been any progress on the North Flank as-built drawings, which is scheduled to start up in mid-year 2009. I have also advised Naseman and the project leads/manager that we need a drawing schedule for these as-built drawings from the vendors but these leads (Hughes, Schwebel, Kirkham) refuse to ask the vendors for any drawing schedules, so how can they know when or if these as-built drawings will be done. BP project execution policy also calls for a

drawing tracking schedule on all projects, and that is being ignored by the Atlantis engineering team, and we have received no support from Naseman to make it happen.

In conclusion, I believe that BP is in violation of US Code Title 43, Chapter 29, regarding their lease production and operations schedule which called for completion of all drawings as built when the DC1 unit started up in December 2007. First, BP should report this failure to perform per their lease requirements to the Department of the Interior, Minerals Management Group. Second, they should work to immediately resolve the incomplete drawings problem to ensure the safety of their offshore operation. Third, they should reinstate my job, since I was retaliatory discharged in violation of Title 42, chapter36, subchapter 3 of the US code.

Unknown

From: Kenneth Abbott [kwabbott@comcast.net]
Sent: Friday, February 27, 2009 3:57 AM
To: kwabbott@comcast.net
Subject: FW: Atlantis Document Numbering Procedure and Drawing Reviews/Approval by the leads

---

From: Abbott, Ken (SWIFT TECHNICAL SERVICES)
Sent: Wednesday, December 17, 2008 9:54 AM
To: Mack, John G; Malone, Ryan P; Jondle, John J; Whitehead, David K (Technip); Schwebel, John; Mack, John G; Hughes, John D; Weber, Rick G; Price, Mike (Clover); Broussard, Danielle M; Kirkham, Benny (BAMA); Broman, William H(HOU)
Cc: Curtis, Tinikka (NES)
Subject: FW: Atlantis Document Numbering Procedure and Drawing Reviews/Approval by the leads

Team - In a previous staff meeting, John Hughes had some questions re our project document approval process and numbering process. I have attached the previously issued procedures that show the process involved for your information and use. If you have any questions, please advise..

From: Abbott, Ken (SWIFT TECHNICAL SERVICES)

Sent: Tuesday, December 02, 2008 2:56 PM

To: Broman, William H(HOU); Curtis, Tinikka (NES)

Cc: Curtis, Tinikka (NES)

Subject: FW: Document Numbering Procedure and Drawing Reviews/Approval by the leads

Bill - as per your request in the staff meeting this morning, attached are the following two documents.

The first is the GOM standard procedure for numbering drawings.

The second is our Atlantis Project Execution Plan, and section 6.2 through 6.4 details the processes for the leads to review and approve drawings, and how they should be numbered.

<<...>>

<<...>>

Tinikka Curtis

Atlantis Subsea Project Team

Document Control

Tinikka.Curtis@bp.com

281-249-8978

Unknown

From: Kenneth Abbott [kwabbott@comcast.net]
Sent: Tuesday, March 03, 2009 3:56 PM
To: kwabbott@comcast.net
Subject: FW: Atlantis Document Control Proposal - Path Forward
Attachments: Sector 31 - Wellheads - J.Hughes.xls; Sector 32 - Trees - R. Weber.ZIP; Sector 33 - Manifolds - J. Schwebel.ZIP; Sector 34 - Pipelines - J.Mack.ZIP; Sector 35 - Controls- D. Whitehead.ZIP; Sector 36 - Umbilical - B. Kirkham.ZIP; Sector 37 - Risers - J. Mack .ZIP; Sector 70 - Installation- J. Hughes.ZIP

From: Abbott, Ken (SWIFT TECHNICAL SERVICES)
Sent: Wednesday, November 19, 2008 3:15 PM
To: Broman, William H(HOU); Garland, Mike L; Curtis, Tinikka (NES); Naseman, Bill E
Subject: Atlantis Document Control Proposal - Path Forward

Bill - we made some revisions to the proposed process for correcting documentum. Please review and transmit to the leads for implementation as per our discussion...

From: Abbott, Ken (SWIFT TECHNICAL SERVICES)

Sent: Tuesday, November 18, 2008 5:16 PM

To: Broman, William H(HOU)

Cc: Curtis, Tinikka (NES); Garland, Mike L

Subject: FW: Rough Draft -Document Control Proposal

Bill - here is our go-forward Documentum QA plan as discussed at our meeting with Bill Naseman and Westlake Document control. Please review it and issue it to the leads as our plan to complete the needed quality control check on drawings issued and to ensure that we can identify and provide as built drawings as needed from documentum for each drill center.

From: Curtis, Tinikka (NES)

Sent: Tuesday, November 18, 2008 4:12 PM

To: Abbott, Ken (SWIFT TECHNICAL SERVICES)

Subject: FW: Rough Draft -Document Control Proposal

Attention Atlantis Leads: We are in the process of close-out for the DC-1 original scope project costs and the issue of all final documentum drawings to the operations group for these working assets. It is critical for these drawings that we QC them, get final as-built drawings by drill center, and transmit to operations quickly.

As we all know, there have been issues with non-compliance with project drawing numbering and tracking procedures, and the status of drawings by drill center is also not complete. We intend to remedy these problems and bring the DC-1 drawings to a proper close-out by the end of January 09, and issue as-built drawings to operations at the same time. To do so, we need your help. At the same time, it is our intent to get the DC3, Water Injection, and SS2 documentum tracking and document issue back in sync with current drawing control procedures.

We have reviewed the below plan will Bill Broman and the Westlake Document Control team, and we have their support. **This effort will require a dedicated resource from each of your teams to review and correct the spreadsheets (Tinikka has attached the spreadsheet below by lead and sector) showing the documents under your control (correcting the drill center #, rev #, rev status, etc.) during the next few weeks (scheduled completion date is 01/09/09).** Once we have the drawing data correct in Documentum, we plan to then issue documentum drawing schedules with required as-built drawing need dates for closeout for all documents for monthly status updating by the schedulers and leads.

Schedule for Documentum updates/corrections

11/24/08 - Tinikka Distributes Drawing Index to Leads, and begins meeting with Leads to explain input required as well as to help work sample corrections

01/09/09 - Leads Complete mark-up of Document Index with corrections and drill center # as required

02/06/09 - All corrections and drill center # attributes loaded into Documentum

02/13/08 - Summary drawing schedule to leads showing current drawing revision status and required issue date for all as-built drawings

02/27/09 - Final as-built drawings to Tinikka for all DC-1 drawings for issue to operations

Supporting Facts

Today most documents that come to BP document control comes from Technip document control in the subsea drop box in Documentum. Once the documents are QC, we find several issues with the documentation that need to be resolved before loading into Documentum.

Problem

Many of the documents in Documentum are incorrectly numbered, titled, and wrongly identified drill centers. This creates a problem for retrieval and the ability to handover accurate documentation to Operations.

Recommendation

BP Document Control will provide a spreadsheet for each lead with documents broken down by Sector.

A Document Status kick-off meeting will be scheduled with each of the Leads and/or Dedicated Representatives from each group for every document on the list to be reviewed and distinguish if

the following attributes are correct. If they are incorrect, the leads will need to mark them up on the spreadsheet with the correction for Tinikka to input into Documentum:

- Sector
- Discipline
- Document Type
  - Area – Drill Center
  - Revision
  - Rev Purpose Code - Status
  - Archival or Handover

Tinikka will work for a half-day with each lead to show them what drawing fields on the list must be updated and to go through examples with them. The leads will then need to complete the mark-up of their individual spreadsheets and return to Tinikka for input into Documentum by 01/09/09.

BP Document Control will begin to record the following attributes for more search capabilities.

- Originator/ Contractor Firm
- Transmittal number
- Contractor Document Number
- Status Code

Process

1. The Lead will receive the spreadsheet by **SECTOR.**

The first attributes to be reviewed are the Sector, Discipline, and Document Type. They need to be reviewed for accuracy and corrected. These attributes have a lot of impact on how documents are filed in Documentum.

- Sector
- Discipline
- Document Type.

2. The next attribute to be identified is the **AREA - (drill center).**

The drill center will determine the next steps to take with the document.

It has been argued that the phases do not matter, however because we work in phases it is to our advantage to label the document by phase if it's relevant to the document for easier identification at handover.

Subsea All

- Documents that is common to all Drill Centers

  - There should not be very many of these documents, and most documents

should still have a specific sector other than 30.

- Most of these documents will stay with the project until the end of the

job.

Drill Center 1 – South Flank

DC-1

- **Documents that illustrate what is currently installed and planned to stay unless other circumstances occur.**
- **These documents are a priority because most of these documents reflect what's currently installed and operating and need to be handover to Operations.**

DC-1 (SS-0)

- Documents that illustrate Original design / equipment that was removed.
- All of these documents will probably be archived.

DC-1 (SS1)

- **Documents that illustrate what is currently installed but planned to be removed by another phase.**
- **These documents are also a priority because most of these documents reflect what's currently installed and operating and need to be handover to Operations.**
- **Some of these documents will be added to a cross-reference spreadsheet to ensure that they are superseded by the next phase documents and correctly numbered during the next phase.**

DC-1 (SS2)

- Documents that illustrate what will replace equipment that is currently installed
- These documents are still in review/comment status so any errors made can be corrected.

Drill Center 3 – North Flank

DC-3

- Documents that are assigned to Atlantis North Flank (ANF)

Base Case.

- These documents are still in review/comment status so any errors made can be corrected.

DC-3 (Phase I)

- Documents that is specific to ANF Phase I only.

- These documents are the next priority because some of these documents reflect what is installed but not operating. These documents is the second priority on the list to be handed over to Operations.

DC-3 (Phase II)

- Documents that are specific to ANF Phase II only.

- These documents are still in review/comment status so any errors made can be corrected.

3. Now we can begin to check the **revision code** and **rev purpose code** *(status code)*.

4. In some cases the leads and/or Rep know if the documents are going to be **handover to Operations** or **archived deliverables.**

This step will allow us to prioritize correcting the handover documentation before the archival data.

<<...>> <<...>> <<...>> <<...>> <<...>> <<...>> <<...>> <<...>>

Pursuant to the Declaration of David L. Perry, Paragraph 7, the files attached to the preceding e-mail were not printed.

.xls Attachment Titles (some within ZIP files):

Sector 31 – Wellheads – J.Hughes
Sector 32 – Trees – R Weber
Sector 33 – Manifolds – J Schwebel
Sector 34 – Pipelines – J Mack
Sector 35 – Controls – D Whitehead
Sector 36 – Umbilical – B Kirkham
Sector 37 – Risers – J Mack
Sector 70 – Installation-J Hughes

Exhibit “D” to Declaration of David L. Perry (Part 2 of 2)

G

E-mail 46 of 61

Unknown

From: Kenneth Abbott [kwabbott@comcast.net]
Sent: Tuesday, March 10, 2009 2:22 PM
To: kwabbott@comcast.net
Subject: FW: My complaint regarding BP failure to perform on their Gulf of Mexico Atlantis DC1 lease and their retaliatory discharge of me
Attachments: Approval by the leads (6.63 KB); Atlantis Document Control Proposal - Path Forward (688 KB)

I completed a DOI complaint form on 3/10/09 with same info and nemiled it with refernce #e003973

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Monday, March 09, 2009 2:01 PM
To: 'Earl_Devaney@doioig.gov'
Subject: My complaint regarding BP failure to perform on their Gulf of Mexico Atlantis DC1 lease and their retaliatory discharge of me

Dear Mr. Devaney:

Attached below is a complaint I have made to the ombuds office at BP regarding my retaliatory discharge in February 2009 for standing up for a female employee who was being discriminated against and harassed by another male employee, and for having blown the whistle on unsafe, incomplete, and fraudulent practices by certain members of the BP engineering team on their Atlantis project DC1 platform which is currently producing in the Gulf of Mexico. Since the Department of Interior administers the leases for this offshore production through its MMS office, I am writing to advise you that even though I have complained about this incomplete engineering in the past, BP has not corrected the problem and the unit is still producing without "as-built" drawings as of 12/08, (and up to this date to the best of my knowledge).

I know that the Obama administration has promised to clean up contract and lease fraud and incomplete and dangerous performance. I believe that since this unit has been operating since December 2007 that the final, as built engineering drawings should have been issued then to ensure safe operation by the site. The BP project execution plan calls for as built drawings at startup (see email below) and I am sure that their site development and production plan issued to you as part of the lease agreement also called for completion of all engineering at startup. This has not happened and BP has taken a "we don't have to fix it" attitude and got rid of me for trying to highlight the problem and get it fixed by the engineers.

Please intervene with BP to get these engineering drawings completed and to operations to prevent any major offshore failures, and also please enforce the law regarding non-retaliation against employees on offshore projects.

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Wednesday, March 04, 2009 10:47 AM
To: 'Pasha.eatedali@ombudsmanecp.com'
Subject: More information for your investigation

Pasha – I have attached below a further complaint against BP for your investigation:

As I have previously stated, I believe that Bill Naseman has retaliated against me with my wrongful termination primarily because I stood up for a female employee who was being discriminated against and harassed by Alan Clark. I also believe that a secondary reason for my termination was retaliation because of my blowing the whistle during November 08 through January 09 regarding unsafe practices in offshore production unit drawing correctness and completion in violation of US Code, Title 43, chapters 29 and 36, public policy, and BP procedures on the Atlantis project.

Specifically, during November 08, I advised Bill Naseman and the project manager Bill Broman, as well as the project team, both verbally and then by email (see attached email – Atlantis document control proposal) that I and Tinika Curtis (Document Controller) had observed a failure by certain project lead engineers (John Schwebel, Benny Kirkham, and John Hughes) to ensure the proper coding of drawings they approved, (i.e. which sector did the particular equipment item belong to) and the failure to issue "as built drawings" to operations for the DC1 offshore production unit that had been complete and producing for a year. As shown in the email, the attachments show a record of the drawing status, and you can see in the revision status row, that many drawings are not issued as revision 0), or As Built, and most do not have "as built" stamped on them as required by GOM drawing procedures. It is critical that offshore operators have a complete set of as-built drawings when they start up a unit for their correct and safe assessment of operating problems on this unit. Yet even though the DC1 offshore wells had been operating since December 07, the operations group still did not have as-built drawings as of December 08. Tinika and I discussed this problem at length with the leads and project management and Bill Naseman. We prepared a plan to remedy this situation but it met much resistance and complaints from the above lead engineers on the project.

In particular, in Bill Broman's staff meeting on December 2, 2008 , John Hughes, Benny Kirkham, and John Schwebel questioned why the leads needed to check the drawings for correctness when they signed them off, and why did they need to push for final as-built drawings. They were very argumentative with me about this, and they also asked what procedure said they had to do these things. I responded that it was BP procedure as outlined in our Project Execution plan to do so and every oil company required their lead engineers to review drawings for accuracy and to obtain as-built final drawings from all vendors for operations before startup (see attached email - approval by the leads, which I sent them after the meeting on 12/17/08 with the procedure attached, which had been previously issued to them at the beginning of the project). Section 6.2 of the Atlantis Project Execution Plan states the following:

As-Built Documentation
The Lead Engineer for each discipline area will ensure that all technical documentation is updated to reflect the as-built condition of the equipment prior to deployment to the field.

I also told them that when the DC1 unit started production one year ago, that final "as built" drawings should have been turned over to offshore operations, and they had not been, and that must be remedied as soon as possible.

The leads have been very unhappy with the need to get these drawings correct and issued as built to operations, and they have complained to Naseman and Bill Broman, the PM. In a staff meeting with Bill Naseman during December 08, I tried to discuss the subject of these leads refusing to properly review drawings and assure they were correct and final issued, and Bill Naseman did not want to discuss it or do anything to resolve it, he was too worried about keeping the good old boys happy. Several other staff members heard my comments, including Eddie Antoine, John Vernor, and Frank Schoffield.

When Bill Naseman met with me on 1/12/09 to blame me for Alan Clark's departure, he also said he had been told by the leads that I was too aggressive in getting the engineers to correct their drawings and get them finalized as built and to operations. I responded that I did not think it was too aggressive to try and get final as-built correct drawings issued to operations after the unit had been in operation for over a year (since December 07). I believe that Naseman was more concerned in covering up for the good old boys (the BP leads) and keeping them happy, than he was in doing the right thing for BP. Ron Berger is the operations manager on the Atlantis project and he is aware of this problem (since he has not received any DC1 as-built drawings) and Tinika and I met with him in early January 09 to discuss the problem with him and advise our

plan to resolve this unsafe situation.

To my knowledge, operations still does not have as-built final correct drawings for DC1, nor has there been any progress on the North Flank as-built drawings, which is scheduled to start up in mid-year 2009. I have also advised Naseman and the project leads/manager that we need a drawing schedule for these as-built drawings from the vendors but these leads (Hughes, Schwebel, Kirkham) refuse to ask the vendors for any drawing schedules, so how can they know when or if these as-built drawings will be done. BP project execution policy also calls for a drawing tracking schedule on all projects, and that is being ignored by the Atlantis engineering team, and we have received no support from Naseman to make it happen.

In conclusion, I believe that BP is in violation of US Code Title 43, Chapter 29, regarding their lease production and operations schedule which called for completion of all drawings as built when the DC1 unit started up in December 2007. First, BP should report this failure to perform per their lease requirements to the Department of the Interior, Minerals Management Group. Second, they should work to immediately resolve the incomplete drawings problem to ensure the safety of their offshore operation. Third, they should reinstate my job, since I was retaliatory discharged in violation of Title 42, chapter36, subchapter 3 of the US code.

Unknown

From: Kenneth Abbott [kwabbott@comcast.net]
Sent: Friday, February 27, 2009 3:57 AM
To: kwabbott@comcast.net
Subject: FW: Atlantis Document Numbering Procedure and Drawing Reviews/Approval by the leads

---

From: Abbott, Ken (SWIFT TECHNICAL SERVICES)
Sent: Wednesday, December 17, 2008 9:54 AM
To: Mack, John G; Malone, Ryan P; Jondle, John J; Whitehead, David K (Technip); Schwebel, John; Mack, John G; Hughes, John D; Weber, Rick G; Price, Mike (Clover); Broussard, Danielle M; Kirkham, Benny (BAMA); Broman, William H(HOU)
Cc: Curtis, Tinikka (NES)
Subject: FW: Atlantis Document Numbering Procedure and Drawing Reviews/Approval by the leads

Team - In a previous staff meeting, John Hughes had some questions re our project document approval process and numbering process. I have attached the previously issued procedures that show the process involved for your information and use. If you have any questions, please advise..

From: Abbott, Ken (SWIFT TECHNICAL SERVICES)

Sent: Tuesday, December 02, 2008 2:56 PM

To: Broman, William H(HOU); Curtis, Tinikka (NES)

Cc: Curtis, Tinikka (NES)

Subject: FW: Document Numbering Procedure and Drawing Reviews/Approval by the leads

Bill - as per your request in the staff meeting this morning, attached are the following two documents.

The first is the GOM standard procedure for numbering drawings.

The second is our Atlantis Project Execution Plan, and section 6.2 through 6.4 details the processes for the leads to review and approve drawings, and how they should be numbered.

<<...>>

<<...>>

Tinikka Curtis

Atlantis Subsea Project Team

Document Control

Tinikka.Curtis@bp.com

281-249-8978

Unknown

From: Kenneth Abbott [kwabbott@comcast.net]
Sent: Tuesday, March 03, 2009 3:56 PM
To: kwabbott@comcast.net
Subject: FW: Atlantis Document Control Proposal - Path Forward
Attachments: Sector 31 - Wellheads - J.Hughes.xls; Sector 32 - Trees - R. Weber.ZIP; Sector 33 - Manifolds - J. Schwebel.ZIP; Sector 34 - Pipelines - J.Mack.ZIP; Sector 35 - Controls- D. Whitehead.ZIP; Sector 36 - Umbilical - B. Kirkham.ZIP; Sector 37 - Risers - J. Mack .ZIP; Sector 70 - Installation- J. Hughes.ZIP

From: Abbott, Ken (SWIFT TECHNICAL SERVICES)
Sent: Wednesday, November 19, 2008 3:15 PM
To: Broman, William H(HOU); Garland, Mike L; Curtis, Tinikka (NES); Naseman, Bill E
Subject: Atlantis Document Control Proposal - Path Forward

Bill - we made some revisions to the proposed process for correcting documentum. Please review and transmit to the leads for implementation as per our discussion...

From: Abbott, Ken (SWIFT TECHNICAL SERVICES)

Sent: Tuesday, November 18, 2008 5:16 PM

To: Broman, William H(HOU)

Cc: Curtis, Tinikka (NES); Garland, Mike L

Subject: FW: Rough Draft -Document Control Proposal

Bill - here is our go-forward Documentum QA plan as discussed at our meeting with Bill Naseman and Westlake Document control. Please review it and issue it to the leads as our plan to complete the needed quality control check on drawings issued and to ensure that we can identify and provide as built drawings as needed from documentum for each drill center.

From: Curtis, Tinikka (NES)

Sent: Tuesday, November 18, 2008 4:12 PM

To: Abbott, Ken (SWIFT TECHNICAL SERVICES)

Subject: FW: Rough Draft -Document Control Proposal

Attention Atlantis Leads: We are in the process of close-out for the DC-1 original scope project costs and the issue of all final documentum drawings to the operations group for these working assets. It is critical for these drawings that we QC them, get final as-built drawings by drill center, and transmit to operations quickly.

As we all know, there have been issues with non-compliance with project drawing numbering and tracking procedures, and the status of drawings by drill center is also not complete. We intend to remedy these problems and bring the DC-1 drawings to a proper close-out by the end of January 09, and issue as-built drawings to operations at the same time. To do so, we need your help. At the same time, it is our intent to get the DC3, Water Injection, and SS2 documentum tracking and document issue back in sync with current drawing control procedures.

We have reviewed the below plan will Bill Broman and the Westlake Document Control team, and we have their support. **This effort will require a dedicated resource from each of your teams to review and correct the spreadsheets (Tinikka has attached the spreadsheet below by lead and sector) showing the documents under your control (correcting the drill center #, rev #, rev status, etc.) during the next few weeks (scheduled completion date is 01/09/09).** Once we have the drawing data correct in Documentum, we plan to then issue documentum drawing schedules with required as-built drawing need dates for closeout for all documents for monthly status updating by the schedulers and leads.

Schedule for Documentum updates/corrections

11/24/08 - Tinikka Distributes Drawing Index to Leads, and begins meeting with Leads to explain input required as well as to help work sample corrections

01/09/09 - Leads Complete mark-up of Document Index with corrections and drill center # as required

02/06/09 - All corrections and drill center # attributes loaded into Documentum

02/13/08 - Summary drawing schedule to leads showing current drawing revision status and required issue date for all as-built drawings

02/27/09 - Final as-built drawings to Tinikka for all DC-1 drawings for issue to operations

Supporting Facts

Today most documents that come to BP document control comes from Technip document control in the subsea drop box in Documentum. Once the documents are QC, we find several issues with the documentation that need to be resolved before loading into Documentum.

Problem

Many of the documents in Documentum are incorrectly numbered, titled, and wrongly identified drill centers. This creates a problem for retrieval and the ability to handover accurate documentation to Operations.

Recommendation

BP Document Control will provide a spreadsheet for each lead with documents broken down by Sector.

A Document Status kick-off meeting will be scheduled with each of the Leads and/or Dedicated Representatives from each group for every document on the list to be reviewed and distinguish if

the following attributes are correct. If they are incorrect, the leads will need to mark them up on the spreadsheet with the correction for Tinikka to input into Documentum:

- Sector
- Discipline
- Document Type
    - Area – Drill Center
    - Revision
    - Rev Purpose Code - Status
    - Archival or Handover

Tinikka will work for a half-day with each lead to show them what drawing fields on the list must be updated and to go through examples with them. The leads will then need to complete the mark-up of their individual spreadsheets and return to Tinikka for input into Documentum by 01/09/09.

BP Document Control will begin to record the following attributes for more search capabilities.

- Originator/ Contractor Firm
- Transmittal number
- Contractor Document Number
- Status Code

Process

1. The Lead will receive the spreadsheet by **SECTOR.**

The first attributes to be reviewed are the Sector, Discipline, and Document Type. They need to be reviewed for accuracy and corrected. These attributes have a lot of impact on how documents are filed in Documentum.

- Sector
- Discipline
- Document Type.

2. The next attribute to be identified is the **AREA - (drill center).**

The drill center will determine the next steps to take with the document.

It has been argued that the phases do not matter, however because we work in phases it is to our advantage to label the document by phase if it's relevant to the document for easier identification at handover.

Subsea All

- Documents that is common to all Drill Centers

- There should not be very many of these documents, and most documents

should still have a specific sector other than 30.

- Most of these documents will stay with the project until the end of the

job.

Drill Center 1 – South Flank

DC-1

- **Documents that illustrate what is currently installed and planned to stay unless other circumstances occur.**
- **These documents are a priority because most of these documents reflect what's currently installed and operating and need to be handover to Operations.**

DC-1 (SS-0)

- Documents that illustrate Original design / equipment that was removed.
- All of these documents will probably be archived.

DC-1 (SS1)

- **Documents that illustrate what is currently installed but planned to be removed by another phase.**
- **These documents are also a priority because most of these documents reflect what's currently installed and operating and need to be handover to Operations.**
- **Some of these documents will be added to a cross-reference spreadsheet to ensure that they are superseded by the next phase documents and correctly numbered during the next phase.**

DC-1 (SS2)

- Documents that illustrate what will replace equipment that is currently installed
- These documents are still in review/comment status so any errors made can be corrected.

Drill Center 3 – North Flank

DC-3

- Documents that are assigned to Atlantis North Flank (ANF)

Base Case.

- These documents are still in review/comment status so any errors made can be corrected.

DC-3 (Phase I)

- Documents that is specific to ANF Phase I only.

- These documents are the next priority because some of these documents reflect what is installed but not operating. These documents is the second priority on the list to be handed over to Operations.

DC-3 (Phase II)

- Documents that are specific to ANF Phase II only.

- These documents are still in review/comment status so any errors made can be corrected.

3. Now we can begin to check the **revision code** and **rev purpose code** *(status code)*.

4. In some cases the leads and/or Rep know if the documents are going to be **handover to Operations** or **archived deliverables.**

This step will allow us to prioritize correcting the handover documentation before the archival data.

<<...>> <<...>> <<...>> <<...>> <<...>> <<...>> <<...>> <<...>>

Pursuant to the Declaration of David L. Perry, Paragraph 7, the files attached to the preceding e-mail were not printed.

.xls Attachment Titles (some within ZIP files):

Sector 31 – Wellheads – J.Hughes
Sector 32 – Trees – R Weber
Sector 33 – Manifolds – J Schwebel
Sector 34 – Pipelines – J Mack
Sector 35 – Controls – D Whitehead
Sector 36 – Umbilical – B Kirkham
Sector 37 – Risers – J Mack
Sector 70 – Installation-J Hughes

E-mail 47 of 61

Unknown

From: Kenneth Abbott [kwabbott@comcast.net]
Sent: Tuesday, March 10, 2009 2:56 PM
To: 'tczachowska@swift-technical.com'
Cc: 'clynch@swift-houston.com'
Subject: FW: recruiting fraud by Swift Technical Services and BP
Attachments: K Abbott meeting with Chris Lynch - additional info (242 KB)

Dear Mr. Stuart Cantley:

Please consider this a demand letter for the 18 months of salary due me from Swift and BP. I have patiently waited for the past 6 weeks since my wrongful termination for payment of my claim, and nothing has happened. I have discussed the issue of your Houston office employment fraud and misrepresentation with Mr. Lynch, and again, nothing happens. As the second step in my attempt to seek restoration of my loss, I am turning to you for assistance. My third step will be to file criminal and civil complaints against your company and BP with the government offices in Texas (Texas Dept of licensing, EEOC, and a civil law suit) and in Britain, your headquarters (REC, DTI). BP says the fault lies with your company, so you need you to make it right. Also, Swift has failed to investigate my claims of retaliatory discharge, in violation of Texas law.

Kerri Walsh in your Houston office clearly committed employment fraud when she misrepresented the term of my contract as being 2 years, when she obviously knew the day before that it was only six months. The details of the employment fraud are shown in the email below.

Please advise by Thursday of this week when I can expect my check for the balance of my 2 year assignment.

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Monday, March 09, 2009 4:27 PM
To: 'bprecruiting@bp.com'
Cc: 'pasha.eatedali@ombudsmanecp.com'
Subject: recruiting fraud by Swift Technical Services and BP and my retaliatory discharge

BP recruiting office:

As per the instructions on your BP career site, I wish to report a recruiting scam being executed by both BP employee (Bill Naseman) and one of your contract employment agencies, Swift Technical Services in Houston. I have reported this recruitment fraud to your ombuds office, but they blame the contractor company Swift. BP is equally at fault as my co-employer and has full knowledge of and is participating in the scam. So far, Swift and BP refuse to do anything about it. The attached email gives the specifics of the recruiting scam, and I am requesting that you act to stop this fraud and to correct the wrong that has been done to me by paying me for the 18 months of salary still due me.

Here is a summary of the fraud:

I answered an add on the internet for a long term assignment (2+ years). On July 6, 2008 I told Swift by email to Lori Retorik that I was only looking for long term 2 year assignments, and I was assured by Lori and Kerri Walsh that was the case. I have been told by Pasha Eatedali that on 7/22/08, Kerri signed a contract with BP (Naseman) for a six month assignment for me, (she never told me about this other contract or its short duration). Then, one day later, Kerri Walsh got me to sign a 2 year assignment contract with Swift for this BP project. At that time, Kerri had full knowledge that she was committing fraud because there was no two year assignment. The assignment was only guaranteed for six months (see attached email). When I interviewed with Bill Naseman before I signed the 2 year contract, I was also told by him that this was a 2+ years assignment. During my employment, he also continued to tell me that he was going to make me permanent staff in January 09. Also, when I was advised by the bp computer system in January 2009 that my contract ended on 2/27/09, I asked Naseman what was going on, and sent him 2 emails requesting an explanation or a copy of any contract with that new date of 2/27/09 on it and he refused to let me see it. He let me see all the other of my staff's contracts so why not mine? It was

because he knew he was committing fraud and did not want to get caught at it...

On 2/3/09, I was terminated, and BP said my contract was up on 2/27/09 and I was a reduction in force due to job slowdown. This is not true. I was wrongfully discharged as a retaliation by BP for my trying to protect a female employee of mine who was being discriminated against and harassed by Alan Clark, another BP employee and also because I had blown the whistle on incomplete engineering activities by BP in violation of their lease.

Unknown

From: Kenneth Abbott [kwabbott@comcast.net]
Sent: Thursday, March 05, 2009 11:41 PM
To: clynch@swift-houston.com; pasha.eatedali@ombudsmanecp.com
Subject: FW: K Abbott meeting with Chris Lynch - additional info
Attachments: ATT00043.eml (173 KB); Job Opportunity (22.0 KB)

Chris/Pasha – Please note the attached email from me to Lori Rektorik with Swift dated 7/6/08. Not only did I verbally tell Swift and BP that I wanted only a two years or longer position, I also put it in writing in this email before I was hired.

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Thursday, March 05, 2009 11:00 PM
To: 'pasha.eatedali@ombudsmanecp.com'
Subject: FW: K Abbott meeting with Chris Lynch

FYI Pasha...please note that I signed my contract with swift on 7/23/08, evidently the day after swift and bp signed their 6 month contract for me mentioned below. It is very apparent that both Swift's Kerri Walsh and Naseman of BP knew they were committing fraud to induce me in. I told both of them that I wanted a long term 2 year assignment before I signed and they both agreed this was two years or longer. Also, when I was advised by the bp computer system in January 2009 that my contract ended on 2/27/09, I asked Naseman what was going on, and for a copy of any contract with that new date of 2/27/09 on it and he refused to let me see it. He let me see all the other of my staff's contracts so why not mine? It was because he knew he was committing fraud and did not want to get caught at it...

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Thursday, March 05, 2009 2:08 PM
To: 'clynch@swift-houston.com'; 'Paul.Egner@bp.com'
Cc: 'kowrey@swift-houston.com'
Subject: FW: K Abbott meeting with Chris Lynch

Chris/Paul – I do not agree with your letter re my termination. My termination was a breach of the terms of my contract with you and I need to be paid for the remaining 18 months of my contract. Please advise when that will be done. Chris - Also, please advise when you will complete your investigation of my complaints of retaliatory discharge.

New information from Pasha Eatedali with the BP ombuds office confirms that both Swift and BP were fraudulent in my hiring and colluded to deceive me regarding the duration of my contract. Here are the details:

- I just talked with Pasha – BP ombudsman – and he informed me of the following: BP/Swift (Kerri Walsh) both signed a "contract services procurement requisition" dated 7/21/08 and a "release against the master agreement" dated 7/22/08 which spell out a 6 month contract term for me from 8/18/2008 to 2/27/2009. This is in direct conflict with the contract I signed with you for a 2 year term from 8/18/2008 to 8/18/2010. I was never made aware of this "other", shorter term contract with BP and Swift, and I think this shows collusion between both of you to commit fraud, to enduce me to sign with you for what appeared to be a long term contract, and is certainly a breach of my contract. Pasha stated that the fault for this lies with Swift, but I think you both are equally to blame. Also, can you please send me copies of these two agreements you signed with BP?
- As I have stated previously, the reason for my termination was not due to a slowdown of the Atlantis project and reduction in force, but was instead retaliation. As the ombudsman for BP stated in my chronology of events I sent you earlier (see yellow text, he was not buying the reduction in force reason either),

January 15, 2009

1. Swift Oil and Gas posts an employment opportunity for the position of "Project Services Lead" for a "MAJOR operator" that calls for a contract person to work on a "long-term Gulf of Mexico project." Kerri Walsh of Swift tells Ken Abbott that the position was for the BP GOM Atlantis, and that Bill Naseman has interviewed two candidates for the position. This is obviously an ad for Abbott's replacement and a contract position. Also, Naseman told Abbott and Eddie Antoine and Sim Powell (all managers in Naseman's group) in a meeting on 1/12/09 that he was also seeking to hire a senior cost engineer contractor for the topsides group for the Phase 2 Atlantis work. Why was Abbott not allowed to move into this position or even be considered for it?
    1. *Raises questions as to whether BP planned on hiring another contract employee to replace Mr. Abbott – shortly after Mr. Naseman had confronted Mr. Abbott about the incident with Mr. Clark. This job posting is in direct contrast to the information BP provided the OoO regarding the Project Services Lead position.*

From: Christopher Lynch [mailto:clynch@swift-houston.com]
Sent: Tuesday, February 24, 2009 3:03 PM
To: 'Kenneth Abbott'
Cc: kowrey@swift-houston.com
Subject: RE: K Abbott meeting with Chris Lynch

Ken, it was good meeting up with you. I will follow up with Parsha at BP. In the meantime here's the letter I discussed with you to confirm your Termination of Contract for Services.

Kind regards

Chris

Christopher Lynch | Area Director - USA

Direct +1 713 328 4566 | Main +1 713 328 4560 | Fax +1 713 328 4561 | Cell +1 832 755 9741

swift
oil and gas

This message is intended only for the stated addressee(s) and may be confidential. Access to this email by anyone else is unauthorised. Any opinions expressed in this email do not necessarily reflect the opinions of Swift Technical Group Holdings Limited, its subsidiary or associated companies.

www.swiftoilandgas.com

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Monday, February 23, 2009 2:07 PM
To: clynch@swift-houston.com
Cc: kowrey@swift-houston.com
Subject: K Abbott meeting with Chris Lynch

Chris/Kelly – tomorrow would be a good time for me to meet with Chris – say around 10AM – is that okay. Can you confirm and send me directions please...

From: Kelly Owrey [mailto:kowrey@swift-houston.com]
Sent: Monday, February 23, 2009 12:30 PM
To: 'Kenneth Abbott'
Cc: 'Christopher Lynch'
Subject: RE: Your investigation/Corrective Measures re my complaints of retaliatory discharge and breach of contract by BP
Importance: High

Hi Ken,

I just wanted to let you know I have sent this on to our Area Director, Chris Lynch (copied) to handle.

Chris would like to set up a meeting with you to discuss this further so please let him know when you are available.

Kind regards,

Kelly Owrey

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Saturday, February 14, 2009 12:34 AM
To: kowrey@swift-houston.com
Subject: FW: Your investigation/Corrective Measures re my complaints of retaliatory discharge and breach of contract by BP

Kelly – please note that ('pasha.eatedali@ombudsmanecp.com') is the ombudsman investigating my complaints for BP and has the same information I have sent you.

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Saturday, February 14, 2009 12:20 AM
To: 'kowrey@swift-houston.com'
Subject: FW: Your investigation/Corrective Measures re my complaints of retaliatory discharge and breach of contract by BP

Kelly – I am resending this because the previous email had some format errors...

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Saturday, February 14, 2009 12:13 AM
To: 'kowrey@swift-houston.com'
Subject: Your investigation/Corrective Measures re my complaints of retaliatory discharge and breach of contract by BP

Kelly - do you have any feedback for me yet regarding my complaint to you and Kerri Walsh regarding the retaliatory discharge and breach of contract by BP? FYI, I have also attached the detailed description of my charges given to BP and to Kerri (with some update information). Note the comments in yellow highlight - they are by the BP Ombudsman. Also, attached below is the EEOC guidance on the needed response by a staffing firm (same as required by the client) when discrimination/retaliation claims are made to them. I would like to make sure these actions are being taken on my behalf by Swift.

EEOC Guidance on Staffing Firms responsibility to respond to a complaint of discrimination/retaliation by one of

Staffing Firm: The firm is liable if it participates in the client's discrimination. For example, if the firm honors its client's request to remove a worker from a job assignment for a discriminatory reason and replace him or her with an individual outside the worker's protected class, the firm is liable for the discriminatory discharge. The firm also is liable if it knew or should have known about the client's discrimination and failed to undertake prompt corrective measures within its control.33

The adequacy of corrective measures taken by a staffing firm depends on the particular facts. Corrective measures may include, but are not limited to: 1) ensuring that the client is aware of the alleged misconduct; 2) asserting the firm's commitment to protect its workers from unlawful harassment and other forms of prohibited discrimination; 3) insisting that prompt investigative and corrective measures be undertaken; and 4) affording the worker an opportunity, if (s)he so desires, to take a different job assignment at the same rate of pay. The staffing firm should not assign other workers

to that work site unless the client has undertaken the necessary corrective and preventive measures to ensure that the discrimination will not recur. Otherwise, the staffing firm will be liable along with the client if a worker later assigned to that client is subjected to similar misconduct.34

From: Kelly Owrey [mailto:kowrey@swift-houston.com]
Sent: Tuesday, February 10, 2009 10:15 AM
To: 'Kenneth Abbott'; Paul.Egner@bp.com
Subject: RE: Ken Abbott's Employment contract

All,

We will look into this and revert back to you both as soon as possible.

Thanks,

Kelly Owrey

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Tuesday, February 10, 2009 9:21 AM
To: Paul.Egner@bp.com
Cc: 'Kelly Owrey'
Subject: Ken Abbott's Employment contract

Paul – This is to advise that I was discharged today. Since you are the Sourcing contract administrator for BP Atlantis, I am writing to inform you of a breach of my employment contract by BP. Because the contract was breached by Bill Naseman of BP, and as per the Texas payday law, I am requesting full payment of the approximately 18 months remaining on my 2 year contract within six days of my last day on the payroll (2/10/09). The specifics of the breach are detailed below. I have also attached my signed contract for your review.

Kelly – By copy of this email, I am also requesting that you enforce this contract and act to resolve this breach as the contracts administrator for Swift.

- I originally signed a two year contract with BP. During the week of 1/6/09, I discovered that the material terms of that contract had been illegally changed by Bill Naseman. He reduced the term of the contract to six months with a new completion date of 2/27/09, without my agreement or signature to the contract. During the week of 1/6/09, I received an email from the BP computer system admin, advising me that my contract end date was now 2/27/09 and I would need to get authorization to renew the end date or my access to the system would be denied on that date. I emailed and called Bill Naseman to find out what was going on during that week and got no answer. On 2/4/09, as per the BP ombudsman Billie Garde, in a meeting with Naseman and Simon Todd to discuss my retaliatory discharge, Simon Todd told the ombudsman that my contract end date was 2/27/09 instead of the original 8/18/2010.
- Since my termination was a retaliatory discharge by Naseman, (and there is substantial evidence that it was retaliation) the contract has also been violated and BP is in breach, because the contract calls for no retaliatory behavior, and because the dismissal violated US employment laws. Naseman terminated me in retaliation for my trying to resolve Becky Cavalier's complaint to me of harassment and discrimination by Alan Clark.

Unknown

From: ricoh_copier@swift-houston.com
Sent: Wednesday, February 25, 2009 1:59 AM
To: Chris
Attachments: 20090225025912548.pdf

This E-mail was sent from "RNPDDDBDE" (Aficio MP C4500).

Scan Date: 02.25.2009 02:59:12 (-0500)
Queries to: ricoh_copier@swift-houston.com

swift
oil and gas

Swift Technical Services, LLC
3050 Post Oak Blvd., Suite 1450
Houston, Texas 77056
t: +1 713 328 4560
f: +1 713 328 4561
e: info@swift-houston.com
www.swiftoilandgas.com

February 24, 2009

Kenneth Abbott
9726 Refugio Court
Houston, Texas 77064

Dear Mr. Abbott

Re: Termination of Contract for Services

Swift received information from you regarding your Termination of Contract for Services (the "Contract"). I wish to confirm the events which led to the termination of your Contract.

Swift terminated your Contract for Services with BP America Production Company due to the slowdown on the BP Atlantis project, Phase 2, to which you were assigned. As a result of the downturn in the oil and gas market, BP re-structured the project team and consolidated the two Project Services Lead positions into one position.

Furthermore, Section 6.1 of the Contract for Services executed by you and Swift provides that Swift "may, at any time, with or without cause, terminate this contract, by giving five (5) days written notice to Contractor specifying the date of termination." Accordingly, Swift provided you with proper notice to terminate your Contract for Services.

Yours sincerely,

Chris Lynch
Area Director - USA

Unknown

From: Kenneth Abbott [kwabbott@comcast.net]

Sent: Sunday, July 06, 2008 6:16 PM

To: 'Lori Rektorik'

Subject: RE: Job Opportunity

Lori I am primarily looking for permanent positions in Houston only but will consider contract in Houston depending on the rate and duration(2 years)...

From: Lori Rektorik [mailto:lrektorik@swift-houston.com]
Sent: Sunday, July 06, 2008 6:28 PM
To: kwabbott@comcast.net
Subject: Job Opportunity

Kenneth,

Thank you for your interest in the Scheduler position I am currently recruiting for. I think your experience looks great and I would love to get your information over to our clients ASAP. We actually have several opportunities available in Planning/Scheduling and Cost, so we might be able to get your information over for several different opportunities.

I have listed a few of the opportunities below for your review:

Position 1:

Location:	Houston, TX and then possibly Pascagoula, MS
Client:	Chevron
Project:	Pascagoula Refinery Expansion Project
Position:	**Planner/Scheduler**
Rate:	To be proposed by candidate – day rate
Rotation:	9/80
Duration:	Long term (2-4 years)
Start Date:	Immediately

Chevron is looking for someone with extensive experience in planning/scheduling, who has taken on leadership roles, particularly over several projects at one time. The Lead Scheduler will plan and schedule major refinery projects and interface with other projects in the Pascagoula, MS refinery. Extensive Primavera experience is a must (P5 or P6 preferred), and a strong construction background is preferred. This position will start in the Houston area and then possibly move to Pascagoula, MS.

Position 2:

Location:	Angola
Client:	Chevron
Project:	Angola LNG
Position:	**Senior Planner/Scheduler**
Rate:	To be proposed by candidate (considering 15% Angolan tax)
Rotation:	28:28 rotation
Duration:	Long term (3-4 years)
Start Date:	ASAP

Duties include:
-Manage planning and scheduling systems for large complex projects
-Design and implement progress and schedule control system for project
-Develop reporting methods and generate reports on regular basis
-Supervise assigned project controls personnel

Position 3:

Location:	Houston, TX
Client:	BP
Project:	Thunderhorse

Position:	**Senior Planner/Scheduler**
Rate:	To be proposed by candidate
Rotation:	9/80
Duration:	Long term (1-1.5 years)
Start Date:	ASAP

We don't have a job description for this role yet, however they let us know they are looking for a Project Controls guy with extensive experience in Planning/Scheduling. They are looking for someone with Shutdown experience as well.

Position 4:

Location:	Prudhoe Bay, Alaska
Client:	BP
Project:	Greater Prudhoe Bay SPU
Position:	**Sr Integrated Facility Scheduler**
Rate:	To be proposed by candidate – day rate for every day worked
Rotation:	1 week:1 week or 2 weeks:2 weeks
Duration:	Long term (1+ years)
Start Date:	ASAP

I have attached the provided job description for your review.

Please send me an updated copy of your resume at your earliest convenience. Please also advise on your availability and a desired day rate. I look forward to your reply.

Kind regards,

Lori Rektorik
Recruitment Consultant
Swift Technical Services LLC
Main: +1 713 328 4560
Direct: +1 713 579 0309
Cell: +1 832 495 1705
Fax: +1 713 328 4561
www.swiftoilandgas.com

This message is intended only for the stated addressee(s) and may be confidential. Access to this email by anyone else is unauthorised. Any opinions expressed in this email do not necessarily reflect the opinions of Swift Technical Group Limited, its subsidiary or associated companies.
Any unauthorised disclosure, use or dissemination, either whole or in part is prohibited. If you are not the intended recipient of this message, please notify the sender immediately.

E-mail 48 of 61

Unknown

From: Christopher Lynch [clynch@swift-houston.com]
Sent: Wednesday, March 11, 2009 7:21 AM
To: 'Kenneth Abbott'; tczachowska@swift-technical.com
Subject: RE: recruiting fraud by Swift Technical Services and BP

Ken,

I am replying on behalf Mr Cantley, CEO.

Swift has referred your complaint and allegations to our attorney. We will respond shortly.

Chris

Christopher Lynch | Area Director - USA

Direct +1 713 328 4566 | Main +1 713 328 4560 | Fax +1 713 328 4561 | Cell +1 832 755 9741

swift
oil and gas

This message is intended only for the stated addressee(s) and may be confidential. Access to this email by anyone else is unauthorised. Any opinions expressed in this email do not necessarily reflect the opinions of Swift Technical Group Holdings Limited, its subsidiary or associated companies.

www.swiftoilandgas.com

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Tuesday, March 10, 2009 3:56 PM
To: tczachowska@swift-technical.com
Cc: clynch@swift-houston.com
Subject: FW: recruiting fraud by Swift Technical Services and BP

Dear Mr. Stuart Cantley:

Please consider this a demand letter for the 18 months of salary due me from Swift and BP. I have patiently waited for the past 6 weeks since my wrongful termination for payment of my claim, and nothing has happened. I have discussed the issue of your Houston office employment fraud and misrepresentation with Mr. Lynch, and again, nothing happens. As the second step in my attempt to seek restoration of my loss, I am turning to you for assistance. My third step will be to file criminal and civil complaints against your company and BP with the government offices in Texas (Texas Dept of licensing, EEOC, and a civil law suit) and in Britain, your headquarters (REC, DTI). BP says the fault lies with your company, so you need you to make it right. Also, Swift has failed to investigate my claims of retaliatory discharge, in violation of Texas law.

Kerri Walsh in your Houston office clearly committed employment fraud when she misrepresented the term of my contract as being 2 years, when she obviously knew the day before that it was only six months. The details of the employment fraud are shown in the email below.

Please advise by Thursday of this week when I can expect my check for the balance of my 2 year assignment.

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Monday, March 09, 2009 4:27 PM
To: 'bprecruiting@bp.com'
Cc: 'pasha.eatedali@ombudsmanecp.com'
Subject: recruiting fraud by Swift Technical Services and BP and my retaliatory discharge

BP recruiting office:

As per the instructions on your BP career site, I wish to report a recruiting scam being executed by both BP employee (Bill Naseman) and one of your contract employment agencies, Swift Technical Services in Houston. I have reported this recruitment fraud to your ombuds office, but they blame the contractor company Swift. BP is equally at fault as my co-employer and has full knowledge of and is participating in the scam. So far, Swift and BP refuse to do anything about it. The attached email gives the specifics of the recruiting scam, and I am requesting that you act to stop this fraud and to correct the wrong that has been done to me by paying me for the 18 months of salary still due me.

Here is a summary of the fraud:

I answered an add on the internet for a long term assignment (2+ years). On July 6, 2008 I told Swift by email to Lori Retorik that I was only looking for long term 2 year assignments, and I was assured by Lori and Kerri Walsh that was the case. I have been told by Pasha Eatedali that on 7/22/08, Kerri signed a contract with BP (Naseman) for a six month assignment for me, (she never told me about this other contract or its short duration). Then, one day later, Kerri Walsh got me to sign a 2 year assignment contract with Swift for this BP project. At that time, Kerri had full knowledge that she was committing fraud because there was no two year assignment. The assignment was only guaranteed for six months (see attached email). When I interviewed with Bill Naseman before I signed the 2 year contract, I was also told by him that this was a 2+ years assignment. During my employment, he also continued to tell me that he was going to make me permanent staff in January 09. Also, when I was advised by the bp computer system in January 2009 that my contract ended on 2/27/09, I asked Naseman what was going on, and sent him 2 emails requesting an explanation or a copy of any contract with that new date of 2/27/09 on it and he refused to let me see it. He let me see all the other of my staff's contracts so why not mine? It was because he knew he was committing fraud and did not want to get caught at it...

On 2/3/09, I was terminated, and BP said my contract was up on 2/27/09 and I was a reduction in force due to job slowdown. This is not true. I was wrongfully discharged as a retaliation by BP for my trying to protect a female employee of mine who was being discriminated against and harassed by Alan Clark, another BP employee and also because I had blown the whistle on incomplete engineering activities by BP in violation of their lease.

E-mail 49 of 61

Unknown

From: Kenneth Abbott [kwabbott@comcast.net]
Sent: Saturday, March 14, 2009 4:28 PM
To: 'pasha.eatedali@ombudsmanecp.com'
Subject: FW: recruiting fraud by Swift Technical Services and BP and my retaliatory discharge
Attachments: K Abbott meeting with Chris Lynch - additional info (242 KB)

Pasha – please note that when investigating the hiring fraud, you need to talk with Eddie Antoine as well as Naseman.

When I was advised by the bp computer system in January 2009 that my contract ended on 2/27/09, I asked Naseman what was going on, and sent him 2 emails requesting an explanation or a copy of any contract with that new date of 2/27/09 on it and he refused to let me see it. I also called Eddie Antoine during this period to see if he could tell me what was going on with the 2/27/09 contract end date. He told me that he did not know, and that only Naseman could explain it. This is strange because Antoine acts as Naseman's assistant manager and usually has full knowledge of employee contracts and their durations along with Naseman.

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Monday, March 09, 2009 4:27 PM
To: 'bprecruiting@bp.com'
Cc: 'pasha.eatedali@ombudsmanecp.com'
Subject: recruiting fraud by Swift Technical Services and BP and my retaliatory discharge

BP recruiting office:

As per the instructions on your BP career site, I wish to report a recruiting scam being executed by both BP employee (Bill Naseman) and one of your contract employment agencies, Swift Technical Services in Houston. I have reported this recruitment fraud to your ombuds office, but they blame the contractor company Swift. BP is equally at fault as my co-employer and has full knowledge of and is participating in the scam. So far, Swift and BP refuse to do anything about it. The attached email gives the specifics of the recruiting scam, and I am requesting that you act to stop this fraud and to correct the wrong that has been done to me by paying me for the 18 months of salary still due me.

Here is a summary of the fraud:

I answered an add on the internet for a long term assignment (2+ years). On July 6, 2008 I told Swift by email to Lori Retorik that I was only looking for long term 2 year assignments, and I was assured by Lori and Kerri Walsh that was the case. I have been told by Pasha Eatedali that on 7/22/08, Kerri signed a contract with BP (Naseman) for a six month assignment for me, (she never told me about this other contract or its short duration). Then, one day later, Kerri Walsh got me to sign a 2 year assignment contract with Swift for this BP project. At that time, Kerri had full knowledge that she was committing fraud because there was no two year assignment. The assignment was only guaranteed for six months (see attached email). When I interviewed with Bill Naseman before I signed the 2 year contract, I was also told by him that this was a 2+ years assignment. During my employment, he also continued to tell me that he was going to make me permanent staff in January 09. Also, when I was advised by the bp computer system in January 2009 that my contract ended on 2/27/09, I asked Naseman what was going on, and sent him 2 emails requesting an explanation or a copy of any contract with that new date of 2/27/09 on it and he refused to let me see it. He let me see all the other of my staff's contracts so why not mine? It was because he knew he was committing fraud and did not want to get caught at it...

On 2/3/09, I was terminated, and BP said my contract was up on 2/27/09 and I was a reduction in force due to job slowdown. This is not true. I was wrongfully discharged as a retaliation by BP for my trying to protect a female employee of mine who was being discriminated against and harassed by Alan Clark, another BP employee and also because I had blown the whistle on fraudulent, incomplete engineering activities by BP.

Unknown

From: Kenneth Abbott [kwabbott@comcast.net]
Sent: Thursday, March 05, 2009 11:41 PM
To: clynch@swift-houston.com; pasha.eatedali@ombudsmanecp.com
Subject: FW: K Abbott meeting with Chris Lynch - additional info
Attachments: ATT00043.eml (173 KB); Job Opportunity (22.0 KB)

Chris/Pasha – Please note the attached email from me to Lori Rektorik with Swift dated 7/6/08. Not only did I verbally tell Swift and BP that I wanted only a two years or longer position, I also put it in writing in this email before I was hired.

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Thursday, March 05, 2009 11:00 PM
To: 'pasha.eatedali@ombudsmanecp.com'
Subject: FW: K Abbott meeting with Chris Lynch

FYI Pasha...please note that I signed my contract with swift on 7/23/08, evidently the day after swift and bp signed their 6 month contract for me mentioned below. It is very apparent that both Swift's Kerri Walsh and Naseman of BP knew they were committing fraud to induce me in. I told both of them that I wanted a long term 2 year assignment before I signed and they both agreed this was two years or longer. Also, when I was advised by the bp computer system in January 2009 that my contract ended on 2/27/09, I asked Naseman what was going on, and for a copy of any contract with that new date of 2/27/09 on it and he refused to let me see it. He let me see all the other of my staff's contracts so why not mine? It was because he knew he was committing fraud and did not want to get caught at it...

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Thursday, March 05, 2009 2:08 PM
To: 'clynch@swift-houston.com'; 'Paul.Egner@bp.com'
Cc: 'kowrey@swift-houston.com'
Subject: FW: K Abbott meeting with Chris Lynch

Chris/Paul – I do not agree with your letter re my termination. My termination was a breach of the terms of my contract with you and I need to be paid for the remaining 18 months of my contract. Please advise when that will be done. Chris - Also, please advise when you will complete your investigation of my complaints of retaliatory discharge.

New information from Pasha Eatedali with the BP ombuds office confirms that both Swift and BP were fraudulent in my hiring and colluded to deceive me regarding the duration of my contract. Here are the details:

- I just talked with Pasha – BP ombudsman – and he informed me of the following: BP/Swift (Kerri Walsh) both signed a "contract services procurement requisition" dated 7/21/08 and a "release against the master agreement" dated 7/22/08 which spell out a 6 month contract term for me from 8/18/2008 to 2/27/2009. This is in direct conflict with the contract I signed with you for a 2 year term from 8/18/2008 to 8/18/2010. I was never made aware of this "other", shorter term contract with BP and Swift, and I think this shows collusion between both of you to commit fraud, to enduce me to sign with you for what appeared to be a long term contract, and is certainly a breach of my contract. Pasha stated that the fault for this lies with Swift, but I think you both are equally to blame. Also, can you please send me copies of these two agreements you signed with BP?
- As I have stated previously, the reason for my termination was not due to a slowdown of the Atlantis project and reduction in force, but was instead retaliation. As the ombudsman for BP stated in my chronology of events I sent you earlier (see yellow text, he was not buying the reduction in force reason either),

January 15, 2009

1. Swift Oil and Gas posts an employment opportunity for the position of "Project Services Lead" for a "MAJOR operator" that calls for a contract person to work on a "long-term Gulf of Mexico project." Kerri Walsh of Swift tells Ken Abbott that the position was for the BP GOM Atlantis, and that Bill Naseman has interviewed two candidates for the position. This is obviously an ad for Abbott's replacement and a contract position. Also, Naseman told Abbott and Eddie Antoine and Sim Powell (all managers in Naseman's group) in a meeting on 1/12/09 that he was also seeking to hire a senior cost engineer contractor for the topsides group for the Phase 2 Atlantis work. Why was Abbott not allowed to move into this position or even be considered for it?
    1. *Raises questions as to whether BP planned on hiring another contract employee to replace Mr. Abbott – shortly after Mr. Naseman had confronted Mr. Abbott about the incident with Mr. Clark. This job posting is in direct contrast to the information BP provided the OoO regarding the Project Services Lead position.*

-

From: Christopher Lynch [mailto:clynch@swift-houston.com]
Sent: Tuesday, February 24, 2009 3:03 PM
To: 'Kenneth Abbott'
Cc: kowrey@swift-houston.com
Subject: RE: K Abbott meeting with Chris Lynch

Ken, it was good meeting up with you. I will follow up with Parsha at BP. In the meantime here's the letter I discussed with you to confirm your Termination of Contract for Services.

Kind regards

Chris

Christopher Lynch | Area Director - USA

Direct +1 713 328 4566 | Main +1 713 328 4560 | Fax +1 713 328 4561 | Cell +1 832 755 9741

swift
oil and gas

This message is intended only for the stated addressee(s) and may be confidential. Access to this email by anyone else is unauthorised. Any opinions expressed in this email do not necessarily reflect the opinions of Swift Technical Group Holdings Limited, its subsidiary or associated companies.

www.swiftoilandgas.com

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Monday, February 23, 2009 2:07 PM
To: clynch@swift-houston.com
Cc: kowrey@swift-houston.com
Subject: K Abbott meeting with Chris Lynch

Chris/Kelly – tomorrow would be a good time for me to meet with Chris – say around 10AM – is that okay. Can you confirm and send me directions please...

From: Kelly Owrey [mailto:kowrey@swift-houston.com]
Sent: Monday, February 23, 2009 12:30 PM
To: 'Kenneth Abbott'
Cc: 'Christopher Lynch'
Subject: RE: Your investigation/Corrective Measures re my complaints of retaliatory discharge and breach of contract by BP
Importance: High

Hi Ken,

I just wanted to let you know I have sent this on to our Area Director, Chris Lynch (copied) to handle.

Chris would like to set up a meeting with you to discuss this further so please let him know when you are available.

Kind regards,

Kelly Owrey

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Saturday, February 14, 2009 12:34 AM
To: kowrey@swift-houston.com
Subject: FW: Your investigation/Corrective Measures re my complaints of retaliatory discharge and breach of contract by BP

Kelly – please note that ('pasha.eatedali@ombudsmanecp.com') is the ombudsman investigating my complaints for BP and has the same information I have sent you.

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Saturday, February 14, 2009 12:20 AM
To: 'kowrey@swift-houston.com'
Subject: FW: Your investigation/Corrective Measures re my complaints of retaliatory discharge and breach of contract by BP

Kelly – I am resending this because the previous email had some format errors...

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Saturday, February 14, 2009 12:13 AM
To: 'kowrey@swift-houston.com'
Subject: Your investigation/Corrective Measures re my complaints of retaliatory discharge and breach of contract by BP

Kelly - do you have any feedback for me yet regarding my complaint to you and Kerri Walsh regarding the retaliatory discharge and breach of contract by BP? FYI, I have also attached the detailed description of my charges given to BP and to Kerri (with some update information). Note the comments in yellow highlight - they are by the BP Ombudsman. Also, attached below is the EEOC guidance on the needed response by a staffing firm (same as required by the client) when discrimination/retaliation claims are made to them. I would like to make sure these actions are being taken on my behalf by Swift.

EEOC Guidance on Staffing Firms responsibility to respond to a complaint of discrimination/retaliation by one of

Staffing Firm: The firm is liable if it participates in the client's discrimination. For example, if the firm honors its client's request to remove a worker from a job assignment for a discriminatory reason and replace him or her with an individual outside the worker's protected class, the firm is liable for the discriminatory discharge. The firm also is liable if it knew or should have known about the client's discrimination and failed to undertake prompt corrective measures within its control.33

The adequacy of corrective measures taken by a staffing firm depends on the particular facts. Corrective measures may include, but are not limited to: 1) ensuring that the client is aware of the alleged misconduct; 2) asserting the firm's commitment to protect its workers from unlawful harassment and other forms of prohibited discrimination; 3) insisting that prompt investigative and corrective measures be undertaken; and 4) affording the worker an opportunity, if (s)he so desires, to take a different job assignment at the same rate of pay. The staffing firm should not assign other workers

to that work site unless the client has undertaken the necessary corrective and preventive measures to ensure that the discrimination will not recur. Otherwise, the staffing firm will be liable along with the client if a worker later assigned to that client is subjected to similar misconduct.34

From: Kelly Owrey [mailto:kowrey@swift-houston.com]
Sent: Tuesday, February 10, 2009 10:15 AM
To: 'Kenneth Abbott'; Paul.Egner@bp.com
Subject: RE: Ken Abbott's Employment contract

All,

We will look into this and revert back to you both as soon as possible.

Thanks,

Kelly Owrey

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Tuesday, February 10, 2009 9:21 AM
To: Paul.Egner@bp.com
Cc: 'Kelly Owrey'
Subject: Ken Abbott's Employment contract

Paul – This is to advise that I was discharged today. Since you are the Sourcing contract administrator for BP Atlantis, I am writing to inform you of a breach of my employment contract by BP. Because the contract was breached by Bill Naseman of BP, and as per the Texas payday law, I am requesting full payment of the approximately 18 months remaining on my 2 year contract within six days of my last day on the payroll (2/10/09). The specifics of the breach are detailed below. I have also attached my signed contract for your review.

Kelly – By copy of this email, I am also requesting that you enforce this contract and act to resolve this breach as the contracts administrator for Swift.

- I originally signed a two year contract with BP. During the week of 1/6/09, I discovered that the material terms of that contract had been illegally changed by Bill Naseman. He reduced the term of the contract to six months with a new completion date of 2/27/09, without my agreement or signature to the contract. During the week of 1/6/09, I received an email from the BP computer system admin, advising me that my contract end date was now 2/27/09 and I would need to get authorization to renew the end date or my access to the system would be denied on that date. I emailed and called Bill Naseman to find out what was going on during that week and got no answer. On 2/4/09, as per the BP ombudsman Billie Garde, in a meeting with Naseman and Simon Todd to discuss my retaliatory discharge, Simon Todd told the ombudsman that my contract end date was 2/27/09 instead of the original 8/18/2010.
- Since my termination was a retaliatory discharge by Naseman, (and there is substantial evidence that it was retaliation) the contract has also been violated and BP is in breach, because the contract calls for no retaliatory behavior, and because the dismissal violated US employment laws. Naseman terminated me in retaliation for my trying to resolve Becky Cavailer's complaint to me of harassment and discrimination by Alan Clark.

Unknown

From: ricoh_copier@swift-houston.com
Sent: Wednesday, February 25, 2009 1:59 AM
To: Chris
Attachments: 20090225025912548.pdf

This E-mail was sent from "RNPDDDBDE" (Aficio MP C4500).

Scan Date: 02.25.2009 02:59:12 (-0500)
Queries to: ricoh_copier@swift-houston.com

swift oil and gas

Swift Technical Services, LLC
3050 Post Oak Blvd., Suite 1450
Houston, Texas 77056
t: +1 713 328 4560
f: +1 713 328 4561
e: info@swift-houston.com
www.swiftoilandgas.com

February 24, 2009

Kenneth Abbott
9726 Refugio Court
Houston, Texas 77064

Dear Mr. Abbott

Re: Termination of Contract for Services

Swift received information from you regarding your Termination of Contract for Services (the "Contract"). I wish to confirm the events which led to the termination of your Contract.

Swift terminated your Contract for Services with BP America Production Company due to the slowdown on the BP Atlantis project, Phase 2, to which you were assigned. As a result of the downturn in the oil and gas market, BP re-structured the project team and consolidated the two Project Services Lead positions into one position.

Furthermore, Section 6.1 of the Contract for Services executed by you and Swift provides that Swift "may, at any time, with or without cause, terminate this contract, by giving five (5) days written notice to Contractor specifying the date of termination." Accordingly, Swift provided you with proper notice to terminate your Contract for Services.

Yours sincerely,

Chris Lynch
Area Director - USA

Unknown

From: Kenneth Abbott [kwabbott@comcast.net]
Sent: Sunday, July 06, 2008 6:16 PM
To: 'Lori Rektorik'
Subject: RE: Job Opportunity

Lori I am primarily looking for permanent positions in Houston only but will consider contract in Houston depending on the rate and duration(2 years)...

From: Lori Rektorik [mailto:lrektorik@swift-houston.com]
Sent: Sunday, July 06, 2008 6:28 PM
To: kwabbott@comcast.net
Subject: Job Opportunity

Kenneth,

Thank you for your interest in the Scheduler position I am currently recruiting for. I think your experience looks great and I would love to get your information over to our clients ASAP. We actually have several opportunities available in Planning/Scheduling and Cost, so we might be able to get your information over for several different opportunities.

I have listed a few of the opportunities below for your review:

Position 1:

Location:	Houston, TX and then possibly Pascagoula, MS
Client:	Chevron
Project:	Pascagoula Refinery Expansion Project
Position:	**Planner/Scheduler**
Rate:	To be proposed by candidate – day rate
Rotation:	9/80
Duration:	Long term (2-4 years)
Start Date:	Immediately

Chevron is looking for someone with extensive experience in planning/scheduling, who has taken on leadership roles, particularly over several projects at one time. The Lead Scheduler will plan and schedule major refinery projects and interface with other projects in the Pascagoula, MS refinery. Extensive Primavera experience is a must (P5 or P6 preferred), and a strong construction background is preferred. This position will start in the Houston area and then possibly move to Pascagoula, MS.

Position 2:

Location:	Angola
Client:	Chevron
Project:	Angola LNG
Position:	**Senior Planner/Scheduler**
Rate:	To be proposed by candidate (considering 15% Angolan tax)
Rotation:	28:28 rotation
Duration:	Long term (3-4 years)
Start Date:	ASAP

Duties include:
-Manage planning and scheduling systems for large complex projects
-Design and implement progress and schedule control system for project
-Develop reporting methods and generate reports on regular basis
-Supervise assigned project controls personnel

Position 3:

Location:	Houston, TX
Client:	BP
Project:	Thunderhorse

Position:	**Senior Planner/Scheduler**
Rate:	To be proposed by candidate
Rotation:	9/80
Duration:	Long term (1-1.5 years)
Start Date:	ASAP

We don't have a job description for this role yet, however they let us know they are looking for a Project Controls guy with extensive experience in Planning/Scheduling. They are looking for someone with Shutdown experience as well.

Position 4:	
Location:	Prudhoe Bay, Alaska
Client:	BP
Project:	Greater Prudhoe Bay SPU
Position:	**Sr Integrated Facility Scheduler**
Rate:	To be proposed by candidate – day rate for every day worked
Rotation:	1 week:1 week or 2 weeks:2 weeks
Duration:	Long term (1+ years)
Start Date:	ASAP

I have attached the provided job description for your review.

Please send me an updated copy of your resume at your earliest convenience. Please also advise on your availability and a desired day rate. I look forward to your reply.

Kind regards,

Lori Rektorik
Recruitment Consultant
Swift Technical Services LLC
Main: +1 713 328 4560
Direct: +1 713 579 0309
Cell: +1 832 495 1705
Fax: +1 713 328 4561
www.swiftoilandgas.com

This message is intended only for the stated addressee(s) and may be confidential. Access to this email by anyone else is unauthorised. Any opinions expressed in this email do not necessarily reflect the opinions of Swift Technical Group Limited, its subsidiary or associated companies.
Any unauthorised disclosure, use or dissemination, either whole or in part is prohibited. If you are not the intended recipient of this message, please notify the sender immediately.

E-mail 50 of 61

Unknown

From: Kenneth Abbott [kwabbott@comcast.net]
Sent: Sunday, March 15, 2009 10:49 PM
To: kwabbott@comcast.net
Subject: FW: Atlantis Subsea P&IDs

Attachments: DC1 SS1.PDF; DC3 Single Line.PDF; DC3 Dual Line.PDF; 3478-BSB-DC-1000-02 _REV-8-.pdf; 3478-BSB-DC-1034-01_rev-a.pdf; 3478-BSB-DC-1066-01-rev-B.pdf

DC1 SS1.PDF (98 KB) | DC3 Single Line.PDF (116 KB) | DC3 Dual Line.PDF (140 KB) | 3478-BSB-DC-1000-02_REV-8-.pdf... | 3478-BSB-DC-1034-01_rev-a.pdf ... | 3478-BSB-DC-1066-01-rev-B.pdf ...

-----Original Message-----
From: Abbott, Ken (SWIFT TECHNICAL SERVICES)
Sent: Wednesday, October 29, 2008 8:15 AM
To: Vass, Malcolm (Technip)
Cc: Hui, Christopher; Berger, Ron K (Manatee); Whitehead, David K (Technip); Curtis, Tinikka (NES); Abbott, Ken (SWIFT TECHNICAL SERVICES); Malone, Ryan P; Mack, John G; Ray, Jim L (Manatee); Velasquez, Roy (Technip); Broman, William H(HOU); Jondle, John J; Kahlden, Ken M (Clover)
Subject: FW: Atlantis Subsea P&IDs

Malcolm - Thanks for the info. Can you please provide me with a drawing schedule for north flank and south flank that shows forecast Issue for Construction (approved) and final as built drawings for the different groups of drawings, (including P&ID's identified below as in progress).

-----Original Message-----
From: McVass@technip.com [mailto:McVass@technip.com]
Sent: Thursday, October 16, 2008 4:10 PM
To: Hui, Christopher; Berger, Ron K (Manatee); Whitehead, David K (Technip); Curtis, Tinikka (NES); Abbott, Ken (SWIFT TECHNICAL SERVICES); Malone, Ryan P; Mack, John G; Ray, Jim L (Manatee)
Cc: Haqqani, Hakeem (Technip); Velasquez, Roy (Technip)
Subject: Atlantis Subsea P&IDs

All,

We have had several questions regarding the status of P&IDs for the subsea facilities. With this in mind I have prepared the following schematics which list all P&IDs and try to show the relationships between them.

DC1 SS1:

This schematic shows all as-built P&IDs currently working their way through document control.

I hope to have all these drawings issued as final by the end of this month. I have attached drawing 3478-BSB-DC-1000-02 which is a piping schematic of the DC1 facilities as currently installed.

DC3 Single Line:

This schematic shows the DC1 - SS1 as-built P&IDs plus the P&IDs that will be associated with the single line tie-in of DC3. The drawings specified in gray boxes are new drawings resulting from the single line tie-in. These drawings are currently working their way through the system. The

drawing in the yellow box is an as-built drawing (of MAN 1A) that will have to be revised when the single line tie-in is installed.

I have attached drawing 3478-BSB-DC-1066-01 which is a piping schematic of the DC1/DC3 single line tie-in facilities.

DC3 Dual Line:

This schematic shows the DC1 - SS1 as-built P&IDs plus the P&IDs that will be associated with the dual line tie-in of DC3. The drawings specified in gray boxes are new drawings resulting from the dual line tie-in. some of these drawings are currently working their way through the system, some have yet to be prepared. Again, the drawing in the yellow box is an as-built drawing (of MAN 3) that will have to be revised when the dual line tie-in is installed.

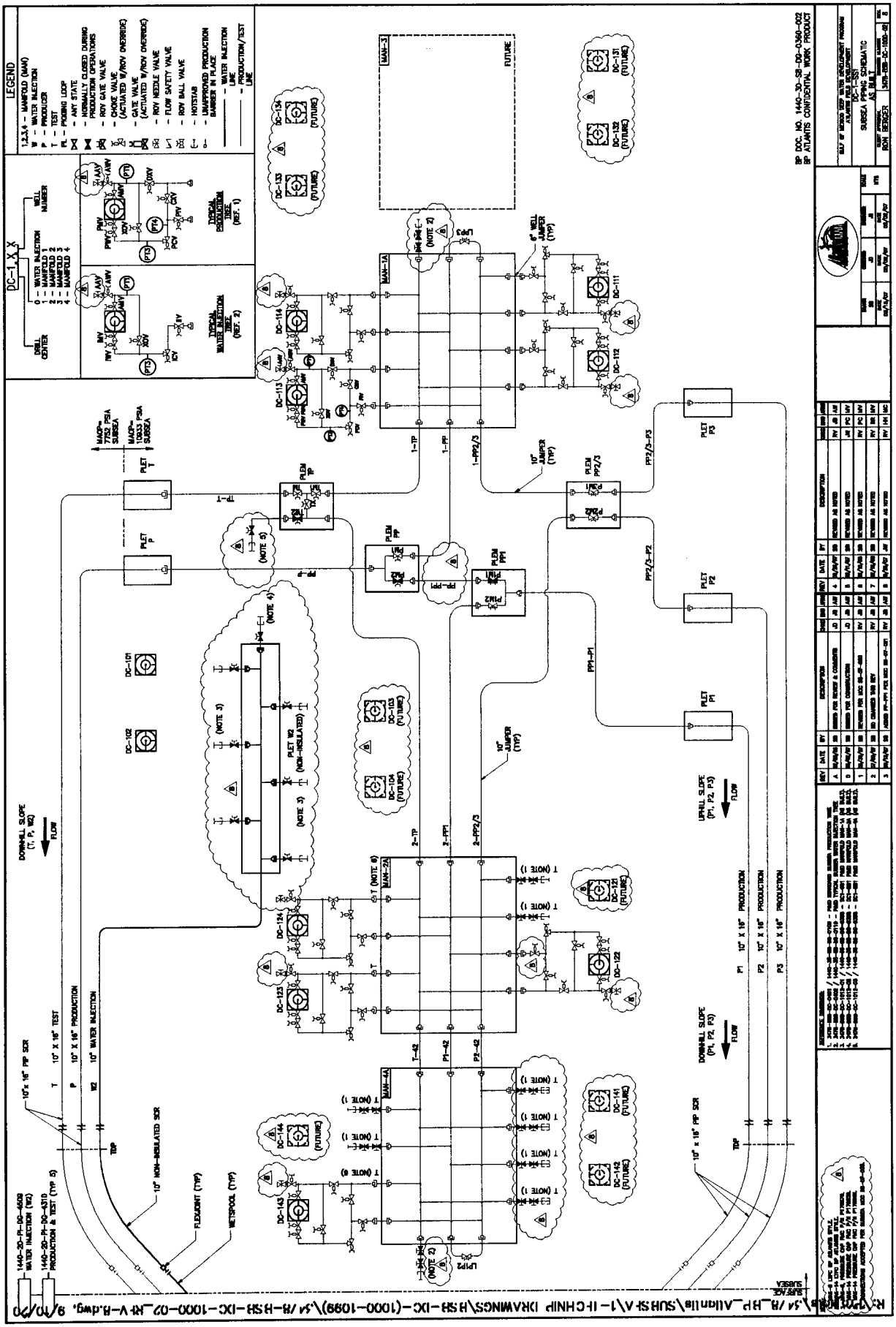
I have attached drawing 3478-BSB-DC-1034-01 which is a piping schematic of the DC1/DC3 dual line tie-in facilities.

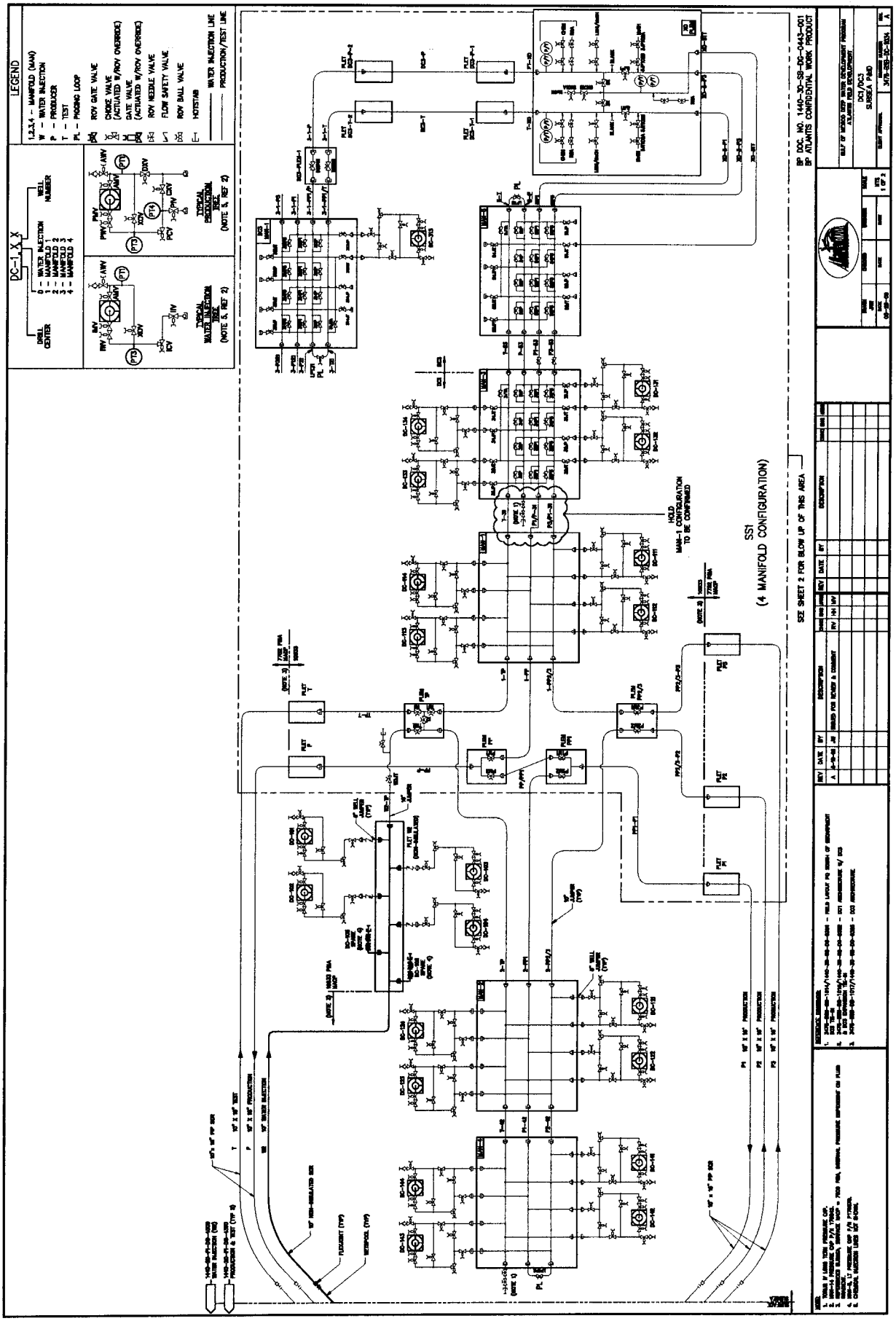
Hope this helps. Let me know if you have any questions.

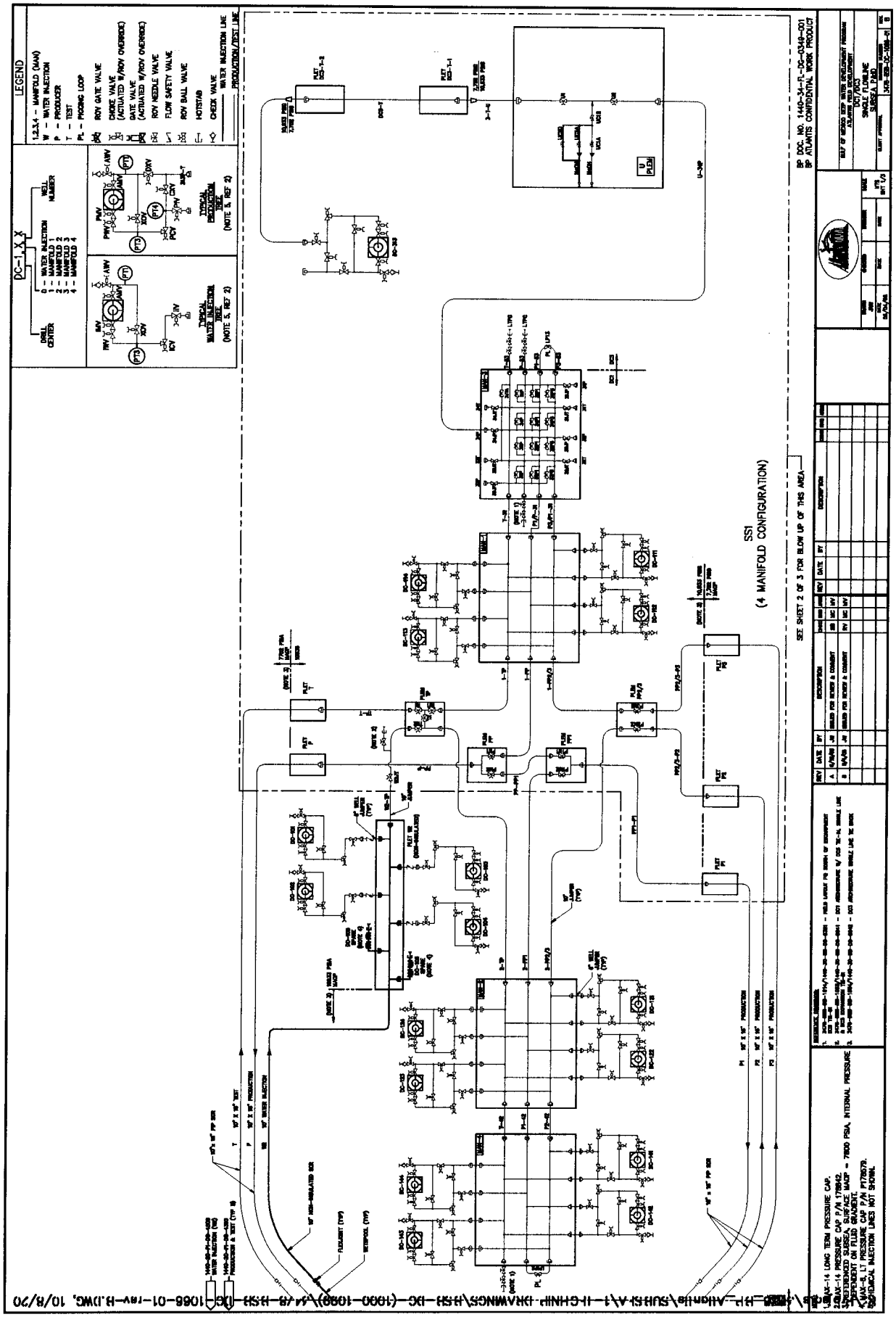
Malcolm.

(See attached file: DC1 SS1.PDF)(See attached file: DC3 Single Line.PDF)
(See attached file: DC3 Dual Line.PDF)

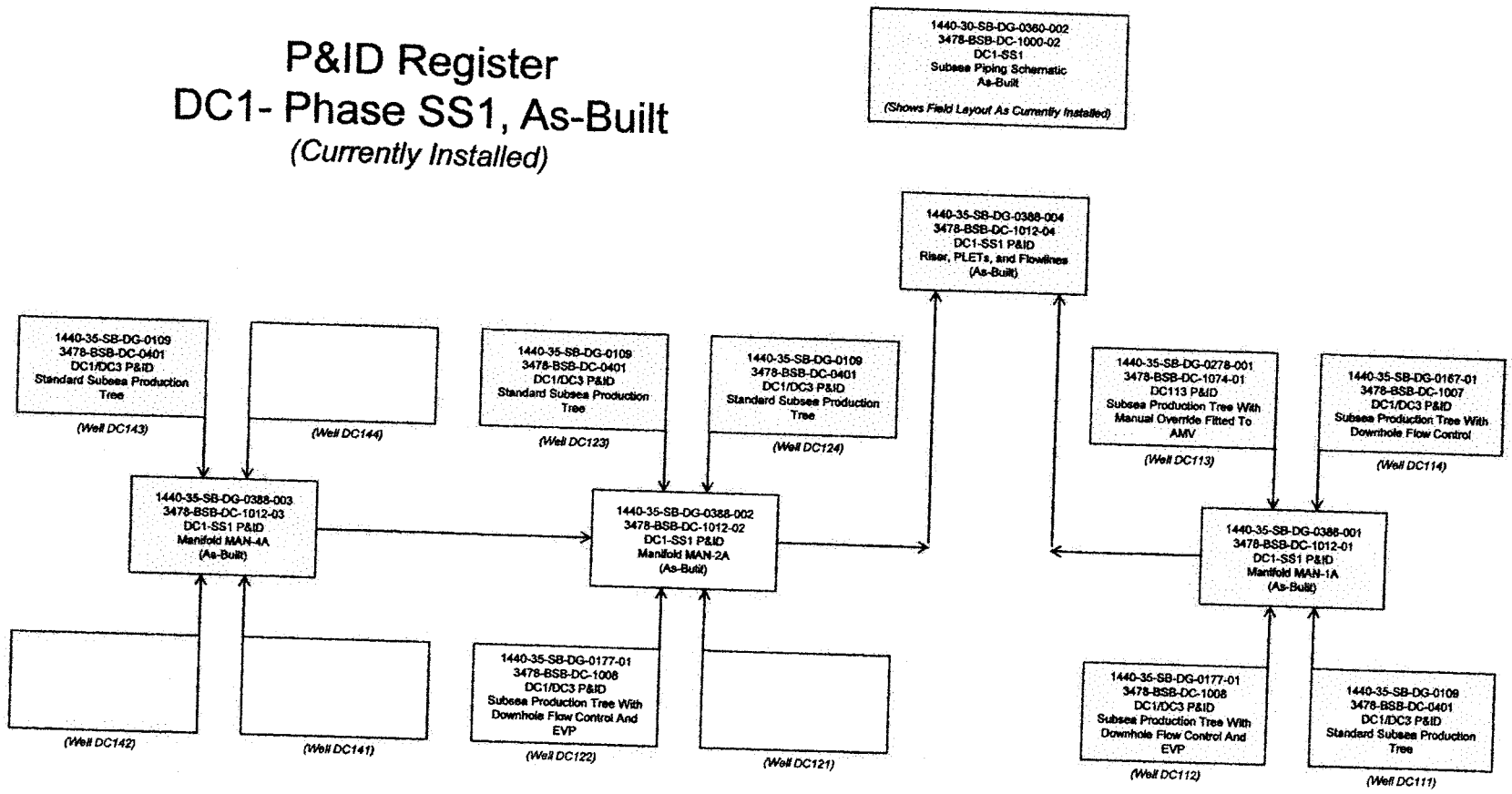
(See attached file: 3478-BSB-DC-1000-02_REV-8-.pdf)(See attached file: 3478-BSB-DC-1034-01_rev-a.pdf)(See attached file: 3478-BSB-DC-1066-01-rev-B.pdf)


LEGEND
DC-1XX
SUBSEA PIPING SCHEMATIC
DC-1 SST
MAN-1A
MAN-2A
MAN-4A
MAN-3
PLET P1
PLET P2
PLET P3
PLET T
PLET P
PLET T2
PLEM TP
PLEM PP
PLEM PP1
PLEM PP2/3
DC-101
DC-102
DC-103 (FUTURE)
DC-104 (FUTURE)
DC-111
DC-112
DC-113
DC-114
DC-121 (FUTURE)
DC-122
DC-123
DC-124
DC-131 (FUTURE)
DC-132 (FUTURE)
DC-133 (FUTURE)
DC-134 (FUTURE)
DC-141 (FUTURE)
DC-142 (FUTURE)
DC-143
DC-144 (FUTURE)
10" X 16" PRODUCTION
10" X 16" WATER INJECTION
10" X 16" TEST
10" NON-INSULATED SCR
FLEXJOINT (TYP)
WETSPOOL (TYP)
DOWNHILL SLOPE (T, P, W2)
UPHILL SLOPE (P1, P2, P3)
DOWNHILL SLOPE (P1, P2, P3)
FLOW
TOP
10" JUMPER (TYP)
6" WELL JUMPER (TYP)
MAOP= 7752 PSIA SUBSEA
MAOP= 10933 PSIA SUBSEA
1440-20-PI-DC-4508 WATER INJECTION (W2)
1440-20-PI-DC-4510 PRODUCTION & TEST (TYP 5)
BP DOC. NO. 1440-30-SE-DC-0360-002
BP ATLANTIS CONFIDENTIAL WORK PRODUCT
BP EXPLORATION (ALASKA) INC.
ATLANTIS DEVELOPMENT
SUBSEA PIPING SCHEMATIC
DC-1 SST
AS BUILT
SURF. ENGRG. MGR. BERGER
3459-RBB-XC-1000-002
DRILL CENTER
WELL NUMBER
0 = WATER INJECTION MANIFOLD 1
1 = MANIFOLD 1
2 = MANIFOLD 2
3 = MANIFOLD 3
4 = MANIFOLD 4
TYPICAL PRODUCTION TREE (REF. 1)
TYPICAL WATER INJECTION TREE (REF. 2)
1,2,3,4 = MANIFOLD (MAN)
W = WATER INJECTION
P = PRODUCER
T = TEST
PL = PIGGING LOOP
AAY = ANY STATE
AWV = NORMALLY CLOSED DURING PRODUCTION OPERATIONS
ROV GATE VALVE
CHOKE VALVE (ACTUATED W/ROV OVERRIDE)
GATE VALVE (ACTUATED W/ROV OVERRIDE)
ROV NEEDLE VALVE
FLOW SAFETY VALVE
ROV BALL VALVE
HOTSTAB
UNAPPROVED PRODUCTION BARRIER IN PLACE
WATER INJECTION LINE
PRODUCTION/TEST LINE
SUBSEA
R:\...\SUBSEA\1-1-CHNIP DRAWINGS\HSH-IXC-(1000-1099)\SHSH-A\1-1-CHNIP_Alliance_R-HSH-IXC-1000-02_A.dwg, 9/10/20


LEGEND
1,2,3,4 – MANIFOLD (MAN)
W – WATER INJECTION
P – PRODUCER
T – TEST
PL – PACKING LOOP
ROV GATE VALVE
CHOKE VALVE (ACTUATED W/ROV OVERRIDE)
GATE VALVE W/ROV OVERRIDE)
ROV NEEDLE VALVE
FLOW SAFETY VALVE
ROV BALL VALVE
HOTSTAB
WATER INJECTION LINE
PRODUCTION/TEST LINE
DRILL CENTER
WELL NUMBER
1 – WATER INJECTION MANIFOLD 1
2 – MANIFOLD 2
3 – MANIFOLD 3
4 – MANIFOLD 4
TYPICAL PRODUCTION JUMPER (NOTE 5, REF 2)
TYPICAL WATER INJECTION JUMPER (NOTE 5, REF 2)
SEE SHEET 2 FOR BLOW UP OF THIS AREA
SS1
(4 MANIFOLD CONFIGURATION)
HOLD MAN-1 CONFIGURATION TO BE CONFIRMED
BP DOC. NO. 1440-JD-SS-DC-0443-001
BP ATLANTIS CONFIDENTIAL WORK PRODUCT
DC1/DC3
SUBSEA PAD


LEGEND
SEE SHEET 2 OF 3 FOR BLOW UP OF THIS AREA
SS1
(4 MANIFOLD CONFIGURATION)

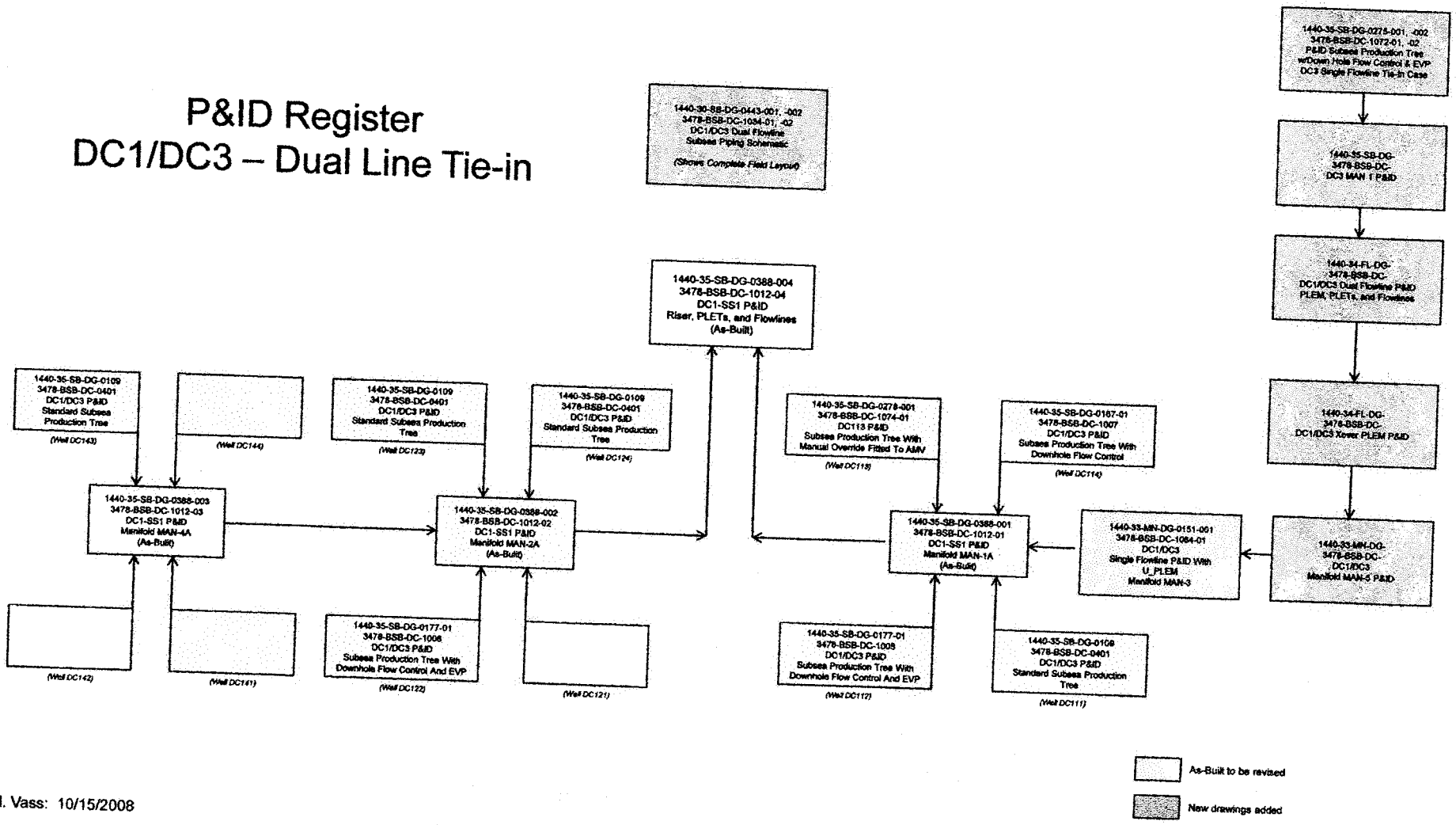
P&ID Register
DC1- Phase SS1, As-Built
(Currently Installed)



M. Vass: 10/15/2008

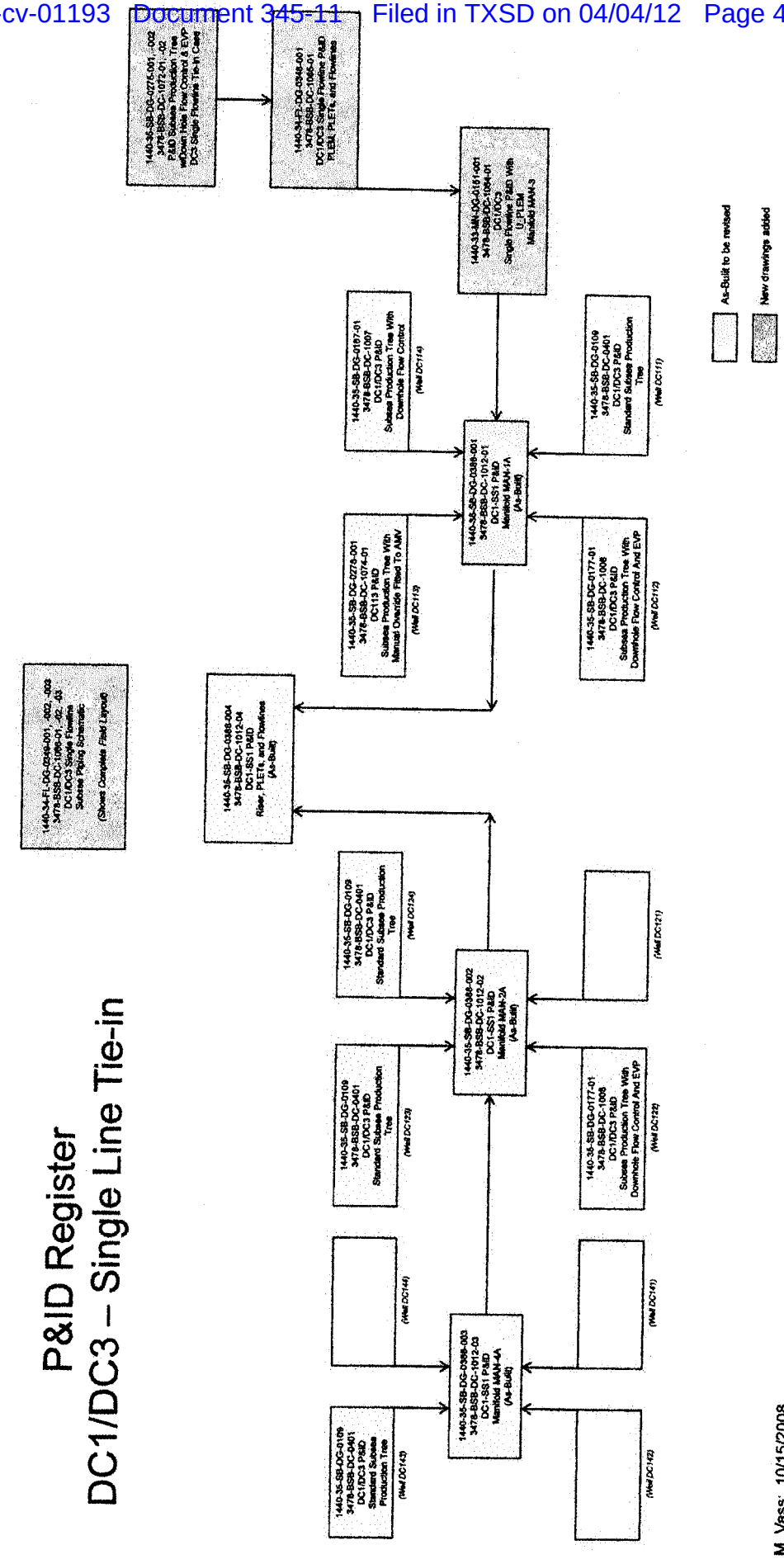
Case 4:09-cv-01193 Document 345-11 Filed in TXSD on 04/04/12 Page 42 of 94

P&ID Register
DC1/DC3 – Dual Line Tie-in



M. Vass: 10/15/2008

Case 4:09-cv-01193 Document 345-11 Filed in TXSD on 04/04/12 Page 43 of 94


P&ID Register
DC1/DC3 – Single Line Tie-in
1440-34-FL-DG-0248-001, -002, -003
3478-BSB-DC-1090-01, -02, -03
DC1/DC3 Single Flowline
Subsea Piping Schematic
(Shows Complete Field Layout)
1440-35-SB-DG-0388-004
3478-BSB-DC-1012-04
DC1-SS1 P&ID
Riser, PLETs, and Flowlines
(As-Built)
1440-35-SB-DG-0109
3478-BSB-DC-0401
DC1/DC3 P&ID
Standard Subsea Production Tree
(Well DC114)
1440-35-SB-DG-0388-003
3478-BSB-DC-1012-03
DC1-SS1 P&ID
Manifold MAN-4A
(As-Built)
(Well DC144)
(Well DC141)
1440-35-SB-DG-0109
3478-BSB-DC-0401
DC1/DC3 P&ID
Standard Subsea Production Tree
(Well DC143)
(Well DC142)
1440-35-SB-DG-0388-002
3478-BSB-DC-1012-02
DC1-SS1 P&ID
Manifold MAN-3A
(As-Built)
1440-35-SB-DG-0109
3478-BSB-DC-0401
DC1/DC3 P&ID
Standard Subsea Production Tree
(Well DC123)
1440-35-SB-DG-0177-01
3478-BSB-DC-1008
DC1/DC3 P&ID
Subsea Production Tree With
Downhole Flow Control And EVP
(Well DC122)
(Well DC121)
1440-35-SB-DG-0388-001
3478-BSB-DC-1012-01
DC1-SS1 P&ID
Manifold MAN-1A
(As-Built)
1440-35-SB-DG-0278-001
3478-BSB-DC-1074-01
DC113 P&ID
Subsea Production Tree With
Manual Override Fitted To AMV
(Well DC113)
1440-35-SB-DG-0177-01
3478-BSB-DC-1008
DC1/DC3 P&ID
Subsea Production Tree With
Downhole Flow Control And EVP
(Well DC112)
1440-35-SB-DG-0107-01
3478-BSB-DC-1007
DC1/DC3 P&ID
Subsea Production Tree With
Downhole Flow Control
(Well DC114)
1440-35-SB-DG-0109
3478-BSB-DC-0401
DC1/DC3 P&ID
Standard Subsea Production Tree
(Well DC111)
1440-33-MN-DG-0151-001
3478-BSB-DC-1064-01
DC1/DC3
Single Flowline P&ID With
U_PLEM
Manifold MAN-3
1440-34-SB-DG-0278-001, -002, -003
3478-BSB-DC-1072-01, -02, -03
P&ID Subsea Production Tree
w/Down Hole Flow Control & EVP
DC3 Single Flowline Tie-in Case
1440-34-SLP-DG-0248-001
3478-BSB-DC-1065-01
DC1/DC3 Single Flowline P&ID
PLEM, PLETs, and Flowlines
As-Built to be revised
New drawings added
M. Vass: 10/15/2008

E-mail 51 of 61

Unknown

From: Pasha Eatedali [pasha.eatedali@ombudsmanecp.com]
Sent: Monday, March 16, 2009 7:31 PM
To: Kenneth Abbott
Subject: RE: Houston Visit

8AM – March 24th, 2009

Omni at Westside
13210 Katy Freeway
Houston, Texas 77079

Pasha Eatedali
Office of The Ombudsman
1300 Eye Street, NW
Suite 900
Washington, DC 20005
Phone: 202-682-7262
Email: pasha.eatedali@ombudsmanecp.com

The information contained in this
email message is intended only for use of the individual or entity
named above. If the reader of this message is not the intended
recipient, or the employee or agent responsible to deliver it to
the intended recipient, you are hereby notified that any
dissemination, distribution or copying of this communication is
strictly prohibited. If you have received this communication in
error, please immediately notify us by email
and destroy the original message. Thank you.

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Sunday, March 15, 2009 11:20 PM
To: Pasha Eatedali
Subject: RE: Houston Visit

A breakfast meeting on 3/24/09 sounds okay with me. Please confirm date and directions...

From: Pasha Eatedali [mailto:pasha.eatedali@ombudsmanecp.com]
Sent: Friday, March 13, 2009 1:45 PM
To: Kenneth Abbott
Subject: RE: Houston Visit

Ken,

Looks like everyone is available on the 24th...so we were thinking of flying in on the 23rd and leaving the 25th. Billie was thinking you could meet us for breakfast the morning of the 24th at our hotel or maybe a drink after we get in on the 23rd. What would work best?

Thanks,

Pasha Eatedali
Office of The Ombudsman
1300 Eye Street, NW
Suite 900
Washington, DC 20005
Phone: 202-682-7262
Email: pasha.eatedali@ombudsmanecp.com

The information contained in this
email message is intended only for use of the individual or entity
named above. If the reader of this message is not the intended
recipient, or the employee or agent responsible to deliver it to
the intended recipient, you are hereby notified that any
dissemination, distribution or copying of this communication is
strictly prohibited. If you have received this communication in
error, please immediately notify us by email
and destroy the original message. Thank you.

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Thursday, March 12, 2009 2:04 PM
To: Pasha Eatedali
Subject: RE: Houston Visit

Pasha – Thursday March 19 (preferably in the morning) works for me...

From: Pasha Eatedali [mailto:pasha.eatedali@ombudsmanecp.com]
Sent: Thursday, March 12, 2009 12:26 PM
To: Kenneth Abbott
Cc: Billie Garde
Subject: Houston Visit

Hey Ken,

Just wanted to check in and see how your schedule looks. It looks like Billie and I are going to fly into Houston to do some follow-up interviews with yourself and a few others. I was wondering if you had time available either March 19th, March 23, 24, or 25th. Let me know what would work best for you. Thanks.

Regards,

Pasha Eatedali
Office of The Ombudsman
1300 Eye Street, NW
Suite 900

Washington, DC 20005
Phone: 202-682-7262
Email: pasha.eatedali@ombudsmanecp.com

The information contained in this
email message is intended only for use of the individual or entity
named above. If the reader of this message is not the intended
recipient, or the employee or agent responsible to deliver it to
the intended recipient, you are hereby notified that any
dissemination, distribution or copying of this communication is
strictly prohibited. If you have received this communication in
error, please immediately notify us by email
and destroy the original message. Thank you.

E-mail 52 of 61

Unknown

From: Kenneth Abbott [kwabbott@comcast.net]
Sent: Saturday, March 21, 2009 10:50 PM
To: 'standards@rec.uk.com'
Cc: 'tczachowska@swift-technical.com'; 'clynch@swift-houston.com'; 'Paul.Egner@bp.com'; 'Pasha Eatedali'; "bprecruiting@bp.com'
Subject: my employment complaint against Swift Technical Services (one of your employment services members) and BP
Attachments: Kenneth Abbott.pdf; RIGZONE - Project Services Lead - Houston, TX.MHT; RE: Job Opportunity; FW: K Abbott meeting with Chris Lynch - additional info

Dear Sir:

I wish to lodge a formal complaint against Swift Technical Services (aka Swift Oil and Gas) and BP with the REC for their fraudulent recruiting practices and fraudulent misrepresentation. Swift got me to sign a two year contract for employment with BP (copy attached), when they had just signed a 6 month only contract with BP for me one day earlier, without my knowledge. Swift and BP refuse to give me a copy of this six month contract they signed, but the BP ombudsman Pasha Eatadali has stated to me in email and verbally that the six month contract was signed by BP and Swift one day before I signed my 2 year contract with Swift.

Swift knew that I had previously asked by email (attached) for a minimum two year only contract duration. They misrepresented this contract as a two year contract to me when they knew that it was only for 6 months.

They have also been misleading in their advertising on the internet for this position, stating that it was for two plus years (see attached copy of the ad they placed on Rigzone in 1/09 for my replacement). I have complained to their senior director in England (Mr. Stuart Cantley) in the attached email, and he has failed to remedy my complaint. I believe their fraudulent hiring practices violate your professional code of ethics, and I would appreciate your investigating my complaint as detailed in the email below:

From: Christopher Lynch [mailto:clynch@swift-houston.com]
Sent: Wednesday, March 11, 2009 8:21 AM
To: 'Kenneth Abbott'; tczachowska@swift-technical.com
Subject: RE: recruiting fraud by Swift Technical Services and BP

Ken,

I am replying on behalf Mr Cantley, CEO.

Swift has referred your complaint and allegations to our attorney. We will respond shortly.

Chris

Christopher Lynch | Area Director - USA

Direct +1 713 328 4566 | Main +1 713 328 4560 | Fax +1 713 328 4561 | Cell +1 832 755 9741

swift
oil and gas

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Tuesday, March 10, 2009 3:56 PM
To: tczachowska@swift-technical.com
Cc: clynch@swift-houston.com
Subject: FW: recruiting fraud by Swift Technical Services and BP

Dear Mr. Stuart Cantley:

Please consider this a demand letter for the 18 months of salary due me from Swift and BP. I have patiently waited for the past 6 weeks since my wrongful termination for payment of my claim, and nothing has happened. I have discussed the issue of your Houston office employment fraud and misrepresentation with Mr. Lynch, and again, nothing happens. As the second step in my attempt to seek restoration of my loss, I am turning to you for assistance. My third step will be to file criminal and civil complaints against your company and BP with the government offices in Texas (Texas Dept of licensing, EEOC, and a civil law suit) and in Britain, your headquarters (REC, DTI). BP says the fault lies with your company, so you need you to make it right. Also, Swift has failed to investigate my claims of retaliatory discharge, in violation of Texas law.

Kerri Walsh in your Houston office clearly committed employment fraud when she misrepresented the term of my contract as being 2 years, when she obviously knew the day before that it was only six months. The details of the employment fraud are shown in the email below.

Please advise by Thursday of this week when I can expect my check for the balance of my 2 year assignment.

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Monday, March 09, 2009 4:27 PM
To: 'bprecruiting@bp.com'
Cc: 'pasha.eatedali@ombudsmanecp.com'
Subject: recruiting fraud by Swift Technical Services and BP and my retaliatory discharge

BP recruiting office:

As per the instructions on your BP career site, I wish to report a recruiting scam being executed by both BP employee (Bill Naseman) and one of your contract employment agencies, Swift Technical Services in Houston. I have reported this recruitment fraud to your ombuds office, but they blame the contractor company Swift. BP is equally at fault as my co-employer and has full knowledge of and is participating in the scam. So far, Swift and BP refuse to do anything about it. The attached email gives the specifics of the recruiting scam, and I am requesting that you act to stop this fraud and to correct the wrong that has been done to me by paying me for the 18 months of salary still due me.

Here is a summary of the fraud:

I answered an add on the internet for a long term assignment (2+ years). On July 6, 2008 I told Swift by email to Lori Retorik that I was only looking for long term 2 year assignments, and I was assured by Lori and Kerri Walsh that was the case. I have been told by Pasha Eatedali that on 7/22/08, Kerri signed a contract with BP (Naseman) for a six month assignment for me, (she never told me about this other contract or its short duration). Then, one day later, Kerri Walsh got me to sign a 2 year assignment contract with Swift for this BP project. At that time, Kerri had full knowledge that she was committing fraud because there was no two year assignment. The assignment was only guaranteed for six months. When I interviewed with Bill Naseman before I signed the 2 year contract, I was also told by him that this was a 2+ years assignment. During my employment, he also continued to tell me that he was going to make me permanent staff in January 09. Also, when I was advised by the bp computer system in January 2009 that my contract ended on 2/27/09, I asked Naseman what was going on, and sent him 2 emails requesting an explanation or a copy of any contract with that new date of 2/27/09 on it and he refused to let me see it. He let me see all the other of my staff's contracts so why not mine? It was because he knew he was committing fraud and did not want to get caught at it...

On 2/3/09, I was terminated, and BP said my contract was up on 2/27/09 and I was a reduction in force due to job slowdown. This is not true. I was wrongfully discharged as a retaliation by BP and Swift has also failed to investigate this wrongful discharge as required by Texas law.

This agreement is entered into and made effective the 18th day of Augusth 2008 by and between:

Swift Technical Services LLC, a corporation organized and existing under the laws of the United States with its registered offices at 3050 Post Oak Blvd., Suite 1450, Houston, Texas 77056 (hereinafter referred to as "COMPANY") of the one part and;

Kenneth Abbott (hereinafter referred to as "CONTRACTOR") of the other part;

EXHIBIT A – SPECIFIC CONDITIONS

Project:	**Atlantis Project**
Services:	**Subsea Project Services Leader**
Commencement Date:	**18 August 2008**
Completion Date:	**18 August 2010 (subject to extension)**
Working Hours:	**9/80 Schedule (or in accordance with operational requirements)**
Base Location:	**Houston, Texas - United States**
Rate:	**US $900.00 per day worked**
Medical, dental, vision, life insurance, AD&D Insurance and long term disability:	**Provided by Company for Contractor. Family members may be covered at Contractor's own cost.**
401K:	**Provided by Company for Contractor – Company provides a full (100%) match of contributions made by Contractor, up to 5% of Contractor's gross pay.**

In Witness Whereof, the parties have duly executed this Agreement in duplicate originals.

For and on behalf of **Swift Technical Services LLC**

Karlny Ritter
Contracts Administrator

Date: July 23, 2008

I hereby accept this Agreement on the terms and conditions set out above
Kenneth Abbott

Date: 7/23/08

EXHIBIT B – GENERAL TERMS AND CONDITIONS

1.0 Interpretation

1.2 Reference to any statute, statutory provision or statutory instrument includes a reference to that statute, statutory provision or statutory instrument as from time to time amended, extended or re-enacted.

1.3 Reference to the singular includes a reference to the plural and vice versa and reference to one gender includes a reference to the other gender.

1.4 Headings are used for convenience only and will not affect the construction or validity of this Contract.

2.0 Definitions

2.1 "Affiliate or Affiliates" of a company shall mean a current or future Person directly or indirectly controlling, controlled by, or under common control with such company. "Control" for this purpose shall, in the case of a corporation with outstanding voting stock, require the direct or indirect ownership of or power to vote with respect to outstanding shares of a corporation's capital stock constituting fifty percent (50%) or more of the votes of any class of such corporation's outstanding voting stock, and with respect to any Person other than a corporation, the possession, directly or indirectly, of the power to direct or cause the direction of such person's management or policies.

2.2 "Approved" shall mean approved in writing (including subsequent written confirmation of previous verbal approval) and "Approval" means approval in writing (including subsequent written confirmation of previous verbal approval).

2.3 "Work" shall mean the consulting services to be performed pursuant to this Contract.

2.4 "Work Site(s)" shall mean the location or locations on, under, in, or through which the Work is to be performed by Contractor.

2.5 "Client" shall refer to BP America Production Company.

2.6 "Company" shall mean Swift Technical Services LLC.

2.7 "Contractor" shall mean Kenneth Abbott.

3.0 Performance

Contractor shall perform the Work in a diligent, skillful, safe and workmanlike manner, and in accordance with the highest level of accepted standards within the industry to prompt completion subject to all of the terms and conditions of this Contract and to the satisfaction of Company and Company's representative.

4.0 Contractor to Inform Itself

Contractor is deemed to have accepted the terms and conditions of this agreement upon commencement of the services.

5.0 Insurance

5.1 The Contractor shall not cause or permit the use of any motor vehicle for any business purposes in connection with the Works unless adequate third party insurance cover is in force in respect of such user. The Contractor will at all times keep the Client/Company indemnified against any liability (whether in respect of any insured risk or otherwise) incurred by the Client/Company or arising otherwise in connection with the use of any motor vehicle for any such purpose.

5.2 Contractor shall endeavour to notify Company in the event they are required to work offshore, in order to ensure full insurance compliance

4.0 Payment

4.1 Contractor shall complete timesheets and expense claim forms (where applicable) and submit to Client Representative for approval.

We advise that all timesheets and expenses are due in accordance with the attached payroll schedule.

Expense claim forms must be supported by original receipts.

4.2 Should Client dispute any invoice from Company relating to Contractor's payment which results in Client deducting monies from Company, Company shall deduct the equivalent from Contractor's next payment.

4.3 No payment shall be made by Company to Contractor when absent from work for any reason whatsoever. Only time actually worked by Contractor on the authorised business of client shall be reimbursable.

5.0 Taxation

Unless otherwise stated under Exhibit A, Company may at all times during the continuance of the Services make all such deductions of or on account of income tax, social taxes and such other taxes, contributions, levies or imposts as may from time to time be deductible by or due from the Contract in respect of or in connection with the monies paid by the Company to Contractor.

6.0 Termination

6.1 Company may, at any time, with or without cause, terminate this contract, by giving five (5) Days' written notice to Contractor specifying the date of termination (hereafter referred to as the "Termination Date").

6.2 Regardless of the basis for termination, on the Termination Date, Contractor shall discontinue the Work and comply with the applicable provisions of this Article and any other applicable provisions of the Contract. Contractor shall preserve all work in progress and shall turn over the Work to Client in accordance with Client's instructions.

6.3 Upon termination as provided for in this Article, title to and possession of all permits, licenses, drawings, data, specifications, or other items acquired for Client will immediately thereon pass to and vest in Client.

6.4 Contractor shall not without the prior consent of the Company, for a period of twelve (12) months after the termination of their employment directly or indirectly and whether on their own behalf or on behalf of any other business concern, person, partnership, firm, company or other body, be engaged, concerned or interested in any capacity, in the Client or in any other business which is wholly or partly connected to the project where assigned by the Company under this agreement.

7.0 Medical Policy

7.1 Contractor warrants that they are medically fit to perform the Services.

7.2 Contractor shall complete and sign the attached medical form and return to Company. Failure to do so may constitute as a material breach of this contract and as a result Company may remove Contractor from the area of operations.

7.3 It is the Contractor's responsibility to notify Company should they be required to travel on business outside the USA, in order for the Company to cover them under their emergency medical policy.

7.4 Contractor must ensure that they are medically fit to work on overseas assignments and provide Company with a medical certificate of fitness, prior to undertaking a business trip.

7.5 All costs associated in obtaining the appropriate medical examination must be borne by Contractor.

8.0 Independent Contractor

In the performance of the Work, Contractor is an independent contractor, shall control the performance of the details of the Work, and shall be responsible for the results as well as responsible for ensuring that the performance of the Work is conducted in a manner consistent with appropriate safety, health, and environmental considerations, including, but not limited to, Client's policies thereon. The Work may be supplemented by instructions from Client's representative(s), and Client reserves the rights of observation and inspection to secure satisfactory completion of Work.

9.0 Confidentiality

9.1 Contractor agrees that Client Background Information (as defined in Section 14.1), Developed Information (as defined in Section 14.2), and any other technical or business information (hereinafter "Client Confidential Information") that is disclosed to Contractor in connection with any Work hereunder by Client, either orally or in writing, is to be treated as confidential and proprietary. Contractor agrees that Client Confidential Information will be maintained in strict confidence and not used or disclosed to Third Parties other than in performing Work for Client. The requirement to maintain information in strict confidence, however, shall not apply to Client Confidential Information that: (i) is or becomes generally available to the public through no wrongful act of Contractor; (ii) was in the possession of Contractor prior to the time it was acquired hereunder and was not acquired, directly or indirectly, from Client or its Affiliates or from others under an obligation of confidentiality; (iii) is independently made available as a matter of right to Contractor by a Third Party without obligations of confidentiality, provided that such Third Party did not acquire such information directly or indirectly from Client or its Affiliates; or (iv) is required by law to be divulged, provided that Contractor must notify Client prior to any disclosure, and must assist Client in minimizing the extent of disclosure.

9.2 Contractor acknowledges and agrees that Client, in its sole discretion, may deliver and/or store Client Confidential Information in digital form on the Internet, extranets and/or through public networks and service providers. Such digital information will be stored on internal or external computers and accessed from public telecommunications networks, and will be accessible by a controlled group of Persons (the "Controlled Group"). Contractor agrees that the delivery and storage of such Client Confidential Information in this manner must not be deemed as making the information generally available to the public, even if such Client Confidential Information is accessed by Persons who are not within the Controlled Group.

9.3 Contractor must not disclose Client Confidential Information to any Third Party or use it or any part thereof except in the performance of the Work. Contractor must not make nor permit the making of any copies, abstracts, derivatives, or summaries of any Client Confidential Information, except in the performance of the Work. Upon completion of Work for Client, or at Client's request, Contractor must return all Client Confidential Information (including, but not limited to, all copies, abstracts, derivatives, and summaries).

9.4 No press release or other public announcement or public disclosure having or containing any reference, either directly or by implication, to this Contract or the transactions herein contemplated, or to Client or any other Persons of Client Group, will be made or used by Contractor or on its behalf, unless the same has been Approved by an authorized officer of Client. This prohibition specifically includes, but is not limited to, any public release (either through print or broadcast news media), any articles prepared for internal or external publication, technical papers, and discussions with journalists or other Third Parties.

10.0 Force Majeure

Except as may be specifically otherwise provided in this Contract, neither Party shall be liable for delays in performance or for non-performance directly occasioned or caused by Force Majeure. Should conditions in the location where the Work is performed, in the reasonable opinion of Company, become such that continuance of the Work would be unduly hazardous, Company may suspend the Work and such suspension will be considered Force Majeure. Inability of either Party to secure funds will not be regarded as Force Majeure. Upon the occurrence of Force Majeure, the Party affected shall give immediate notice thereof to the other Party and shall, at its cost and expense, do all things reasonably possible to remove or mitigate its effects

11.0 Suspension

11.1 Company shall have the right to suspend all or any part of the Work at any time and at its sole discretion by giving written notice of suspension to Contractor.

11.2 Upon termination of any such suspension, Contractor shall immediately re-commence the Work under the terms and conditions of this Contract with the same labor and resources as were previously employed on the Work.

12.0 Compliance with Laws

12.1 Company warrants that Contractors are familiar with and knowledgeable about all relevant laws, rules regulations, decrees, federal, state and local, which are now or may become applicable to the Contract and any Work performed in connection herewith, including without limitation, those pertaining to immigration, health, safety, security, and environmental protection (hereinafter sometimes referred to as the "Laws") and Contractor warrants that in conducting the Work hereunder it will comply with all such Laws.

12.2 Contractor shall not pay any fee, commission, rebate, or other value to or for the benefit of any governmental official having jurisdiction over the Work Site, if such payment would be inconsistent with or penalized by the laws and regulations of the United States.

12.3 Contractor agrees to Indemnify Company Group from and against any Claims/Losses resulting from Contractor's failure to comply with all applicable Laws.

12.4 If any portion of the Work will occur on the Outer Continental Shelf, then Company shall supply individuals who are authorized under the laws of the United States to perform the Work. Any individual who lacks such authorization will not be allowed to take part in the portion of the Work that occurs on the Outer Continental Shelf.

13.0 Intellectual Property and Indemnification

13.1 Background Information. "Information" means any information embodied in any tangible form including, but not limited to, a work of authorship, a process diagram, a drawing, a blueprint, a model, a specification, a report, a manuscript, a document, a manual, a photograph, a database, a computer program, a design for an apparatus or process or system, working notes, a plan, or a model. "Contractor Background Information" means any Information that was created by or for Contractor prior to making this Contract that is directly related to the Work, and Information that was made at no expense to Client. "Client Background Information" means any Information that was created by or for Client prior to making this Contract, and Information that is directly related to the Work. All Client Background Information is Client's property, must not be used by Contractor for any purpose except for the performance of the Work, and must be returned to Client at the completion of the Work or upon Client's request. All IP Rights (defined in Section 13.3) in Client Background Information remains the property of Client. All IP Rights in Contractor Background Information remains the property of Contractor. Each Party hereby grants to the other Party a non-exclusive, irrevocable, worldwide, royalty-free right and license to use and to copy its Background Information solely in connection with and for the performance of the Work.

13.2 Tangible Personal Property. "Developed Information" means all Information that is embodied in any tangible form and that is created by Contractor for Client in performance of the Work. Client owns all right, title, and interest in and to Developed Information. Ownership of Developed Information does not include ownership of any Contractor Background Information that may be embedded in the Developed Information. Developed Information must be clearly marked by Contractor as Client's property. Unless clearly and unequivocally stated otherwise in writing and expressly agreed to by Client, Contractor must furnish to Client at least one (1) tangible copy of Developed Information, or any part thereof upon request by Client, and at least one (1) tangible copy of Developed Information upon completion of the Work. If requested by Client, appropriate portions of such Developed Information will be furnished in electronic format.

13.3 Intangible Personal Property. "Intellectual Property Rights" ("IPR" or "IP Rights") means copyrights, patents, trade secrets, and other intellectual property rights. "Underlying Contractor IP Rights" means IP Rights that are owned by or licensed to Contractor, and that cover Contractor Background Information embedded in the Developed Information (or any part thereof). With the exception of Underlying Contractor IP Rights, all IP Rights in and covering the Developed Information and created by Contractor hereunder vest solely in Client ("Client IPR"); provided, however, that Client hereby grants to Contractor a non-exclusive, non-transferable, worldwide, royalty-free right and license under such Client IPR to use such Developed Information only for the benefit of Client. IP Rights in the form of trade secrets will be disclosed to the other Party only to the extent necessary and only for the purpose of performing the Work.

13.4 Copyrights. With the exception of any Underlying Contractor IP Rights, all Developed Information in the form of original works of authorship which are fixed in any tangible form and created by or on behalf of Contractor hereunder (hereinafter collectively referred to as "Creative Materials") and which are covered by the definition of "work for hire" under 17-U.S.C. 101 of the U.S. Copyright Act of 1976, are considered a "work for hire," and Client is the owner of all copyrights in any such works. As to any such Creative Materials created for Client which are not covered under the aforementioned "work for hire" definition of the Copyright Act, such that Contractor is regarded as the copyright author and owner, Contractor agrees to assign and hereby assigns all such copyright ownership in the Creative Materials to Client. Any copyright notice displayed on the Creative Materials must be in Client's name and not in Contractor's name. Contractor agrees to execute and deliver to Client any required documents and do all acts necessary to perfect Client's entire right, title, and interest in the Creative Materials. Client has the right to photograph, reproduce, copy, duplicate, modify, and make any use of Developed Information under any copyrights or equivalent rights held by Contractor.

13.5 Inventions. Contractor hereby assigns, conveys, and transfers to Client (and must require its employees, agents, representatives, and subcontractors to assign, convey, and transfer to Client), without further consideration, each and every invention, discovery, or improvement that is made, conceived, or developed by Contractor or such others as a direct result of performing the Work. Contractor must promptly notify Client whenever an invention, discovery, or improvement is made, conceived, or developed. Upon Client's request, Contractor must execute any required documents and do all acts necessary to perfect Client's entire right, title, and interest in such inventions, discoveries, and improvements. Client has sole responsibility for the preparation, filing, and prosecution of all applications for Letters Patent and will bear all costs and expenses in connection therewith. Client is under no obligation to file any patent application, secure any patent, or maintain any patent in force.

13.6 Covenants. Contractor represents that it has not and will not breach or infringe any IP Rights of any Third Party in performance of the Work. Contractor must inform Client if Contractor requires any license or similar right under a Third Party's IP Rights, or the performance of the Work requires the payment of any royalty or similar fee by or for Client. Contractor agrees to Indemnify Client Group from any Claim/Loss which may be brought against any member of Client Group at any time for breach of contract or infringement of any IP Rights allegedly relating to the performance of any Work hereunder; provided, however, that Client promptly notifies Contractor in writing of the institution of such action or suit and permits Contractor to control its Defense. Contractor must Indemnify Client Group from any damages or other sums awarded or assessed in any such action or suit. Any settlements thereon must be Approved by Client. Client may be represented by counsel of its own selection at its own expense, and agrees to cooperate fully in the Defense of any such action or suit.

13.7 Client Rights. Unless clearly and unequivocally stated otherwise and expressly agreed to by Client in writing, if the Work includes, but is not limited to, engineering or professional services, technical assistance or consultation, or authoring or creating a design or a plan for equipment, hardware, software, apparatus, process, and/or system, and if the Contractor will not make, not build, not construct, or not obtain for Client such equipment, hardware, software, apparatus, process, or system, Contractor grants to Client Group and/or will obtain for Client Group, a royalty free, paid-up, non-exclusive, irrevocable, world-wide license and right: (i) to own and have possession of all forms of such design or plan; (ii) to copy and make derivatives of such design or plan; (iii) to use such design or plan; (iv) to make all such equipment, hardware, software, apparatus, process, and/or system from such design or plan; (v) to import, use, install, test, commission, operate, maintain, alter, repair, rebuild, retrofit, convert, and decommission such equipment, hardware, software, apparatus, process, and/or system without limitation; (vi) to sell, offer for sale, donate, lease, sublease, and rent such equipment, hardware, software, apparatus, process, and/or system; and (vii) to assign and transfer any or all of such rights without limitation.

Contractor agrees that if Contractor cannot grant to Client the rights to do all the things described in this Section 13.7, it will obtain such rights at no cost to Client.

14.0 Applicable Law

14.1 This Contract may govern Work furnished by Contractor to Company in several different jurisdictions. With respect to the selection of governing law in this Article, the Parties stipulate that certainty of enforcement is an important expectation negotiated between the Parties in entering this Contract.

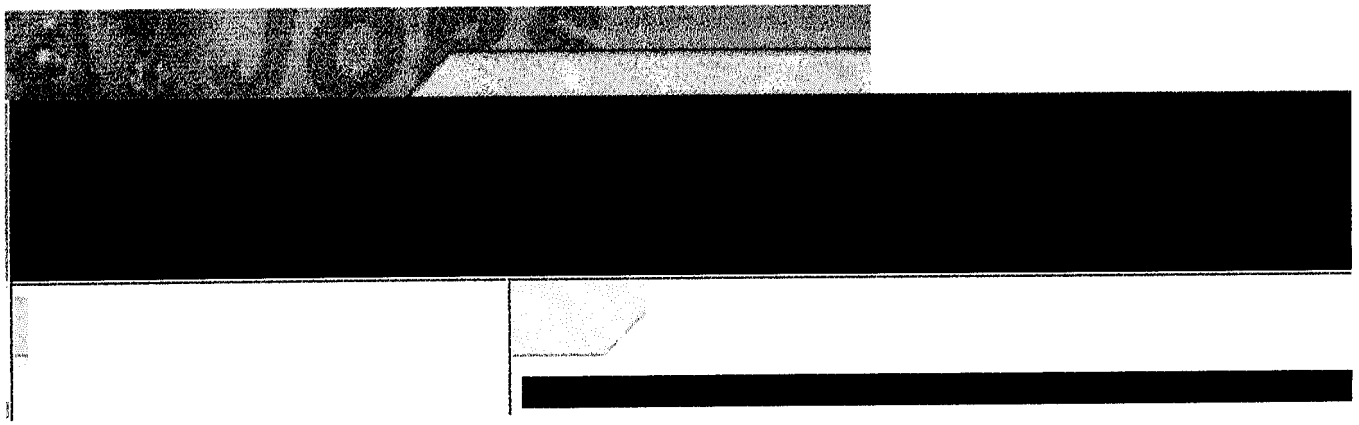
14.2 To the maximum extent permissible, this Contract, and any action Connected With this Contract brought by either Party (and any action brought by any member of Company Group or Client Group or any Third Party asserting a third party beneficiary claim pursuant to this Contract) shall be governed by the laws of the State of Colorado.

14.3 In the event Colorado law is held to be inapplicable by a court of competent jurisdiction, the laws of the state where the Work is performed hereunder shall apply unless application of such law to a particular provision would prevent enforcement of such provision, in which case the law applicable to such provision shall be any potentially applicable law that would allow enforcement of said provision as written.

15.0 Code of Conduct

In connection with Contractor's performance of this Contract, Contractor agrees to act consistently with the BP Code of Conduct (www.bp.com) and to adhere to the principles set out therein, including our principles of non-retaliation against "whistle blowers." Any failure to do so by Contractor shall be deemed a material breach of this Contract.

RIGZONE.com
your gateway to the oil and gas industry



andidates:

- Candidate Home
- Post Your Resume
- Search Jobs
- Edit Your Resume
- Your Career Center

- Downstream Jobs
- Students & Graduates

Candidate Help:

- How it Works
- FAQ

Training:

- Training Center Home
- Training Providers
- Training Events

- Training Books
- Reference Books

Recruiters:

- Recruiter Home

NEWSLETTERS

Rigzone Job Alert: Twice per month this email notifies you of the latest job openings posted by leaders in the oil & gas industry.

Subscribe Today: Your Email Here Subscribe (hidden)

Your email is safe with us.
Read our privacy policy

advertise

You Are Here: Jobs >> Engineer - General Job Postings >> Job Po

Friend's Email:

Your Email:

Subject: Project Services Lead - Houston, TX - Job Open

Employer: S
Desired Expertise: E
Experience: 1
Education: E
Salary: T
Location: H
Date Updated: 1

Job Description:

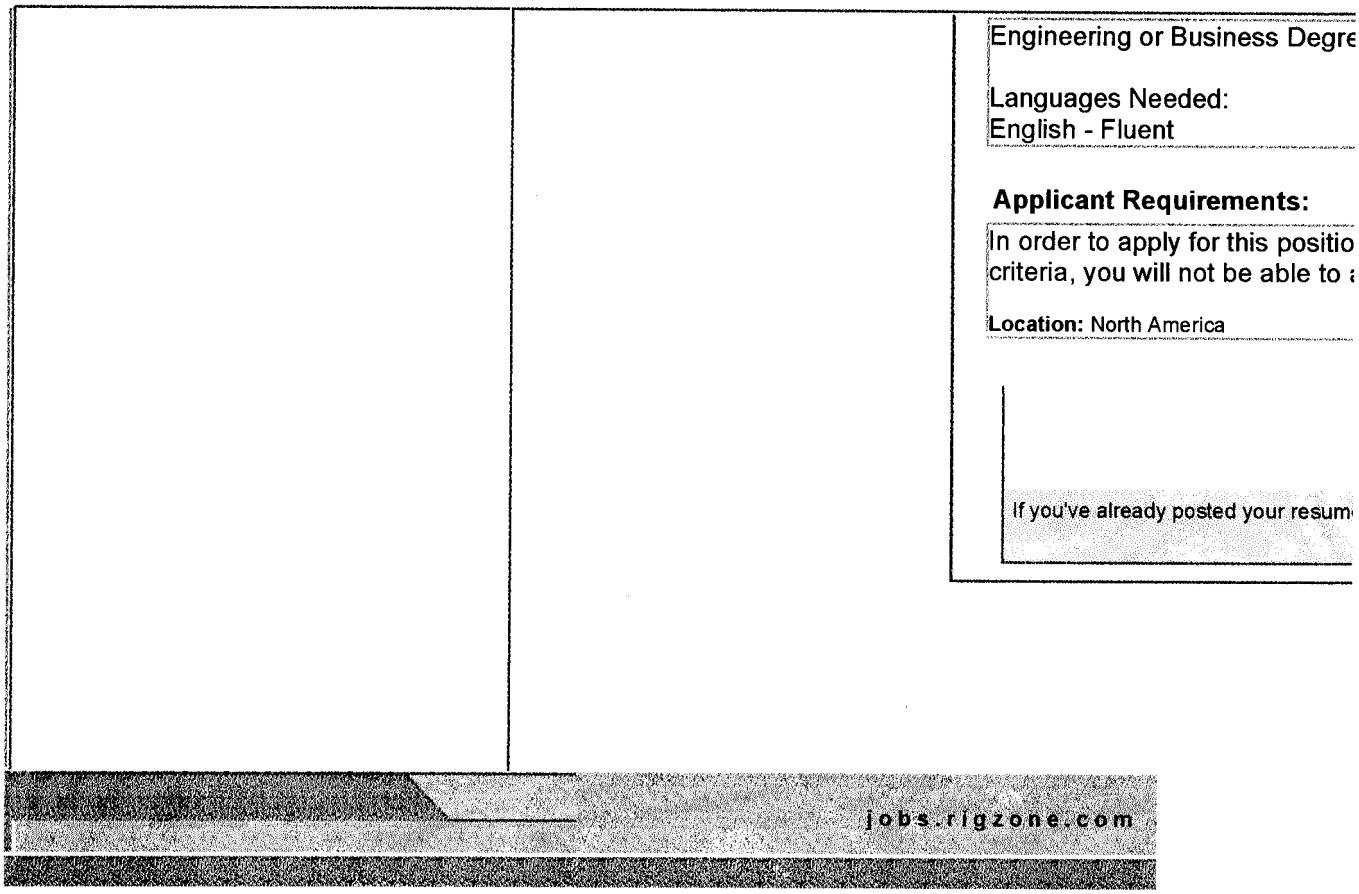
MAJOR operator seeking Proje
will be provided with FREE me

Project Services Lead
Location: Houston, TX
Duration: 2 years +
Rotation: 9/80 schedule
Start Date: ASAP
Rate: To be proposed by intere

Based in Houston and will invo
will likely eventually be located
Manager and will eventually en
Engineer and a Project Service
reporting relationship in to the I
the following areas: Ability to le
skills.

Experience:
A minimum of 10 years relevan
desirable and deepwater exper

Education / Certifications:
Engineering or Business Degre


Engineering or Business Degre
Languages Needed:
English - Fluent
Applicant Requirements:
In order to apply for this positio
criteria, you will not be able to
Location: North America
If you've already posted your resum
jobs.rigzone.com

Unknown

From: Kenneth Abbott [kwabbott@comcast.net]
Sent: Thursday, March 05, 2009 11:41 PM
To: clynch@swift-houston.com; pasha.eatedali@ombudsmanecp.com
Subject: FW: K Abbott meeting with Chris Lynch - additional info
Attachments: ATT00043.eml (173 KB); Job Opportunity (22.0 KB)

Chris/Pasha – Please note the attached email from me to Lori Rektorik with Swift dated 7/6/08. Not only did I verbally tell Swift and BP that I wanted only a two years or longer position, I also put it in writing in this email before I was hired.

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Thursday, March 05, 2009 11:00 PM
To: 'pasha.eatedali@ombudsmanecp.com'
Subject: FW: K Abbott meeting with Chris Lynch

FYI Pasha...please note that I signed my contract with swift on 7/23/08, evidently the day after swift and bp signed their 6 month contract for me mentioned below. It is very apparent that both Swift's Kerri Walsh and Naseman of BP knew they were committing fraud to induce me in. I told both of them that I wanted a long term 2 year assignment before I signed and they both agreed this was two years or longer. Also, when I was advised by the bp computer system in January 2009 that my contract ended on 2/27/09, I asked Naseman what was going on, and for a copy of any contract with that new date of 2/27/09 on it and he refused to let me see it. He let me see all the other of my staff's contracts so why not mine? It was because he knew he was committing fraud and did not want to get caught at it...

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Thursday, March 05, 2009 2:08 PM
To: 'clynch@swift-houston.com'; 'Paul.Egner@bp.com'
Cc: 'kowrey@swift-houston.com'
Subject: FW: K Abbott meeting with Chris Lynch

Chris/Paul – I do not agree with your letter re my termination. My termination was a breach of the terms of my contract with you and I need to be paid for the remaining 18 months of my contract. Please advise when that will be done. Chris - Also, please advise when you will complete your investigation of my complaints of retaliatory discharge.

New information from Pasha Eatedali with the BP ombuds office confirms that both Swift and BP were fraudulent in my hiring and colluded to deceive me regarding the duration of my contract. Here are the details:

- I just talked with Pasha – BP ombudsman – and he informed me of the following: BP/Swift (Kerri Walsh) both signed a "contract services procurement requisition" dated 7/21/08 and a "release against the master agreement" dated 7/22/08 which spell out a 6 month contract term for me from 8/18/2008 to 2/27/2009. This is in direct conflict with the contract I signed with you for a 2 year term from 8/18/2008 to 8/18/2010. I was never made aware of this "other", shorter term contract with BP and Swift, and I think this shows collusion between both of you to commit fraud, to enduce me to sign with you for what appeared to be a long term contract, and is certainly a breach of my contract. Pasha stated that the fault for this lies with Swift, but I think you both are equally to blame. Also, can you please send me copies of these two agreements you signed with BP?
- As I have stated previously, the reason for my termination was not due to a slowdown of the Atlantis project and reduction in force, but was instead retaliation. As the ombudsman for BP stated in my chronology of events I sent you earlier (see yellow text, he was not buying the reduction in force reason either),

January 15, 2009

1. Swift Oil and Gas posts an employment opportunity for the position of "Project Services Lead" for a "MAJOR operator" that calls for a contract person to work on a "long-term Gulf of Mexico project." Kerri Walsh of Swift tells Ken Abbott that the position was for the BP GOM Atlantis, and that Bill Naseman has interviewed two candidates for the position. This is obviously an ad for Abbott's replacement and a contract position. Also, Naseman told Abbott and Eddie Antoine and Sim Powell (all managers in Naseman's group) in a meeting on 1/12/09 that he was also seeking to hire a senior cost engineer contractor for the topsides group for the Phase 2 Atlantis work. Why was Abbott not allowed to move into this position or even be considered for it?
    1. *Raises questions as to whether BP planned on hiring another contract employee to replace Mr. Abbott – shortly after Mr. Naseman had confronted Mr. Abbott about the incident with Mr. Clark. This job posting is in direct contrast to the information BP provided the OoO regarding the Project Services Lead position.*

From: Christopher Lynch [mailto:clynch@swift-houston.com]
Sent: Tuesday, February 24, 2009 3:03 PM
To: 'Kenneth Abbott'
Cc: kowrey@swift-houston.com
Subject: RE: K Abbott meeting with Chris Lynch

Ken, it was good meeting up with you. I will follow up with Parsha at BP. In the meantime here's the letter I discussed with you to confirm your Termination of Contract for Services.

Kind regards

Chris

Christopher Lynch | Area Director - USA

Direct +1 713 328 4566 | Main +1 713 328 4560 | Fax +1 713 328 4561 | Cell +1 832 755 9741

swift
oil and gas

This message is intended only for the stated addressee(s) and may be confidential. Access to this email by anyone else is unauthorised. Any opinions expressed in this email do not necessarily reflect the opinions of Swift Technical Group Holdings Limited, its subsidiary or associated companies.

www.swiftoilandgas.com

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Monday, February 23, 2009 2:07 PM
To: clynch@swift-houston.com
Cc: kowrey@swift-houston.com
Subject: K Abbott meeting with Chris Lynch

Chris/Kelly – tomorrow would be a good time for me to meet with Chris – say around 10AM – is that okay. Can you confirm and send me directions please...

From: Kelly Owrey [mailto:kowrey@swift-houston.com]
Sent: Monday, February 23, 2009 12:30 PM
To: 'Kenneth Abbott'
Cc: 'Christopher Lynch'
Subject: RE: Your investigation/Corrective Measures re my complaints of retaliatory discharge and breach of contract by BP
Importance: High

Hi Ken,

I just wanted to let you know I have sent this on to our Area Director, Chris Lynch (copied) to handle.

Chris would like to set up a meeting with you to discuss this further so please let him know when you are available.

Kind regards,

Kelly Owrey

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Saturday, February 14, 2009 12:34 AM
To: kowrey@swift-houston.com
Subject: FW: Your investigation/Corrective Measures re my complaints of retaliatory discharge and breach of contract by BP

Kelly – please note that ('pasha.eatedali@ombudsmanecp.com') is the ombudsman investigating my complaints for BP and has the same information I have sent you.

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Saturday, February 14, 2009 12:20 AM
To: 'kowrey@swift-houston.com'
Subject: FW: Your investigation/Corrective Measures re my complaints of retaliatory discharge and breach of contract by BP

Kelly – I am resending this because the previous email had some format errors...

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Saturday, February 14, 2009 12:13 AM
To: 'kowrey@swift-houston.com'
Subject: Your investigation/Corrective Measures re my complaints of retaliatory discharge and breach of contract by BP

Kelly - do you have any feedback for me yet regarding my complaint to you and Kerri Walsh regarding the retaliatory discharge and breach of contract by BP? FYI, I have also attached the detailed description of my charges given to BP and to Kerri (with some update information). Note the comments in yellow highlight - they are by the BP Ombudsman. Also, attached below is the EEOC guidance on the needed response by a staffing firm (same as required by the client) when discrimination/retaliation claims are made to them. I would like to make sure these actions are being taken on my behalf by Swift.

EEOC Guidance on Staffing Firms responsibility to respond to a complaint of discrimination/retaliation by one of

Staffing Firm: The firm is liable if it participates in the client's discrimination. For example, if the firm honors its client's request to remove a worker from a job assignment for a discriminatory reason and replace him or her with an individual outside the worker's protected class, the firm is liable for the discriminatory discharge. The firm also is liable if it knew or should have known about the client's discrimination and failed to undertake prompt corrective measures within its control.33

The adequacy of corrective measures taken by a staffing firm depends on the particular facts. Corrective measures may include, but are not limited to: 1) ensuring that the client is aware of the alleged misconduct; 2) asserting the firm's commitment to protect its workers from unlawful harassment and other forms of prohibited discrimination; 3) insisting that prompt investigative and corrective measures be undertaken; and 4) affording the worker an opportunity, if (s)he so desires, to take a different job assignment at the same rate of pay. The staffing firm should not assign other workers

to that work site unless the client has undertaken the necessary corrective and preventive measures to ensure that the discrimination will not recur. Otherwise, the staffing firm will be liable along with the client if a worker later assigned to that client is subjected to similar misconduct.34

From: Kelly Owrey [mailto:kowrey@swift-houston.com]
Sent: Tuesday, February 10, 2009 10:15 AM
To: 'Kenneth Abbott'; Paul.Egner@bp.com
Subject: RE: Ken Abbott's Employment contract

All,

We will look into this and revert back to you both as soon as possible.

Thanks,

Kelly Owrey

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Tuesday, February 10, 2009 9:21 AM
To: Paul.Egner@bp.com
Cc: 'Kelly Owrey'
Subject: Ken Abbott's Employment contract

Paul – This is to advise that I was discharged today. Since you are the Sourcing contract administrator for BP Atlantis, I am writing to inform you of a breach of my employment contract by BP. Because the contract was breached by Bill Naseman of BP, and as per the Texas payday law, I am requesting full payment of the approximately 18 months remaining on my 2 year contract within six days of my last day on the payroll (2/10/09). The specifics of the breach are detailed below. I have also attached my signed contract for your review.

Kelly – By copy of this email, I am also requesting that you enforce this contract and act to resolve this breach as the contracts administrator for Swift.

- I originally signed a two year contract with BP. During the week of 1/6/09, I discovered that the material terms of that contract had been illegally changed by Bill Naseman. He reduced the term of the contract to six months with a new completion date of 2/27/09, without my agreement or signature to the contract. During the week of 1/6/09, I received an email from the BP computer system admin, advising me that my contract end date was now 2/27/09 and I would need to get authorization to renew the end date or my access to the system would be denied on that date. I emailed and called Bill Naseman to find out what was going on during that week and got no answer. On 2/4/09, as per the BP ombudsman Billie Garde, in a meeting with Naseman and Simon Todd to discuss my retaliatory discharge, Simon Todd told the ombudsman that my contract end date was 2/27/09 instead of the original 8/18/2010.
- Since my termination was a retaliatory discharge by Naseman, (and there is substantial evidence that it was retaliation) the contract has also been violated and BP is in breach, because the contract calls for no retaliatory behavior, and because the dismissal violated US employment laws. Naseman terminated me in retaliation for my trying to resolve Becky Cavailer's complaint to me of harassment and discrimination by Alan Clark.

Unknown

From: ricoh_copier@swift-houston.com
Sent: Wednesday, February 25, 2009 1:59 AM
To: Chris
Attachments: 20090225025912548.pdf

This E-mail was sent from "RNPDDDBDE" (Aficio MP C4500).

Scan Date: 02.25.2009 02:59:12 (-0500)
Queries to: ricoh_copier@swift-houston.com

swift oil and gas

Swift Technical Services, LLC
3050 Post Oak Blvd., Suite 1450
Houston, Texas 77056
t: +1 713 328 4560
f: +1 713 328 4561
e: info@swift-houston.com
www.swiftoilandgas.com

February 24, 2009

Kenneth Abbott
9726 Refugio Court
Houston, Texas 77064

Dear Mr. Abbott

Re: Termination of Contract for Services

Swift received information from you regarding your Termination of Contract for Services (the "Contract"). I wish to confirm the events which led to the termination of your Contract.

Swift terminated your Contract for Services with BP America Production Company due to the slowdown on the BP Atlantis project, Phase 2, to which you were assigned. As a result of the downturn in the oil and gas market, BP re-structured the project team and consolidated the two Project Services Lead positions into one position.

Furthermore, Section 6.1 of the Contract for Services executed by you and Swift provides that Swift "may, at any time, with or without cause, terminate this contract, by giving five (5) days written notice to Contractor specifying the date of termination." Accordingly, Swift provided you with proper notice to terminate your Contract for Services.

Yours sincerely,

Chris Lynch
Area Director - USA

Unknown

From: Kenneth Abbott [kwabbott@comcast.net]
Sent: Sunday, July 06, 2008 6:16 PM
To: 'Lori Rektorik'
Subject: RE: Job Opportunity

Lori I am primarily looking for permanent positions in Houston only but will consider contract in Houston depending on the rate and duration(2 years)...

From: Lori Rektorik [mailto:lrektorik@swift-houston.com]
Sent: Sunday, July 06, 2008 6:28 PM
To: kwabbott@comcast.net
Subject: Job Opportunity

Kenneth,

Thank you for your interest in the Scheduler position I am currently recruiting for. I think your experience looks great and I would love to get your information over to our clients ASAP. We actually have several opportunities available in Planning/Scheduling and Cost, so we might be able to get your information over for several different opportunities.

I have listed a few of the opportunities below for your review:

Position 1:

Location:	Houston, TX and then possibly Pascagoula, MS
Client:	Chevron
Project:	Pascagoula Refinery Expansion Project
Position:	**Planner/Scheduler**
Rate:	To be proposed by candidate – day rate
Rotation:	9/80
Duration:	Long term (2-4 years)
Start Date:	Immediately

Chevron is looking for someone with extensive experience in planning/scheduling, who has taken on leadership roles, particularly over several projects at one time. The Lead Scheduler will plan and schedule major refinery projects and interface with other projects in the Pascagoula, MS refinery. Extensive Primavera experience is a must (P5 or P6 preferred), and a strong construction background is preferred. This position will start in the Houston area and then possibly move to Pascagoula, MS.

Position 2:

Location:	Angola
Client:	Chevron
Project:	Angola LNG
Position:	**Senior Planner/Scheduler**
Rate:	To be proposed by candidate (considering 15% Angolan tax)
Rotation:	28:28 rotation
Duration:	Long term (3-4 years)
Start Date:	ASAP

Duties include:
-Manage planning and scheduling systems for large complex projects
-Design and implement progress and schedule control system for project
-Develop reporting methods and generate reports on regular basis
-Supervise assigned project controls personnel

Position 3:

Location:	Houston, TX
Client:	BP
Project:	Thunderhorse

Position:	**Senior Planner/Scheduler**
Rate:	To be proposed by candidate
Rotation:	9/80
Duration:	Long term (1-1.5 years)
Start Date:	ASAP

We don't have a job description for this role yet, however they let us know they are looking for a Project Controls guy with extensive experience in Planning/Scheduling. They are looking for someone with Shutdown experience as well.

Position 4:	
Location:	Prudhoe Bay, Alaska
Client:	BP
Project:	Greater Prudhoe Bay SPU
Position:	**Sr Integrated Facility Scheduler**
Rate:	To be proposed by candidate – day rate for every day worked
Rotation:	1 week:1 week or 2 weeks:2 weeks
Duration:	Long term (1+ years)
Start Date:	ASAP

I have attached the provided job description for your review.

Please send me an updated copy of your resume at your earliest convenience. Please also advise on your availability and a desired day rate. I look forward to your reply.

Kind regards,

Lori Rektorik
Recruitment Consultant
Swift Technical Services LLC
Main: +1 713 328 4560
Direct: +1 713 579 0309
Cell: +1 832 495 1705
Fax: +1 713 328 4561
www.swiftoilandgas.com

This message is intended only for the stated addressee(s) and may be confidential. Access to this email by anyone else is unauthorised. Any opinions expressed in this email do not necessarily reflect the opinions of Swift Technical Group Limited, its subsidiary or associated companies.
Any unauthorised disclosure, use or dissemination, either whole or in part is prohibited. If you are not the intended recipient of this message, please notify the sender immediately.

E-mail 53 of 61

Unknown

From: Kenneth Abbott [kwabbott@comcast.net]
Sent: Sunday, March 22, 2009 5:44 PM
To: 'Paul.Egner@bp.com''; 'tczachowska@swift-technical.com'; 'clynch@swift-houston.com'; 'Paul.Egner@bp.com'; "bprecruiting@bp.com'; 'Pasha Eatedali'
Subject: FW: Additional info re my formal complaint against Swift Technical Services and BP (Houston offices) transmitted to BERR by email today
Attachments: Kenneth Abbott.pdf; RIGZONE - Project Services Lead - Houston, TX.MHT; RE: Job Opportunity; FW: K Abbott meeting with Chris Lynch - additional info

Chris/Pasha – Please note I have also filed a formal complaint with the Texas Department of Licensing and Regulation regarding your companies hiring fraud...

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Sunday, March 22, 2009 6:32 PM
To: 'clynch@swift-houston.com'; 'tczachowska@swift-technical.com'; 'pasha.eatedali@ombudsmanecp.com'
Subject: FW: Additional info re my formal complaint against Swift Technical Services and BP (Houston offices) transmitted to BERR by email today

Fyi...

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Sunday, March 22, 2009 6:29 PM
To: 'eas@berr.gsi.gov.uk'
Subject: Additional info re my formal complaint against Swift Technical Services and BP (Houston offices) transmitted to BERR by email today

Earlier this afternoon I also sent you my formal complaint by email using your complaint form to the above address. This is the additional info re my complaint which I promised in my prior complaint. I am unsure if you can process my complaint since the offending offices are in Houston but owned by Swift and BP in London. Thanks for your help...

Dear Sir:

I wish to lodge a formal complaint against Swift Technical Services in London, owner of the offending office of Swift in Houston, Texas (aka Swift Oil and Gas) and BP with BERR for their fraudulent recruiting practices and fraudulent misrepresentation. Swift got me to sign a two year contract for employment with BP (copy attached), when they had just signed a 6 month only contract with BP for me one day earlier, without my knowledge. Swift and BP refuse to give me a copy of this six month contract they signed, but the BP ombudsman Pasha Eatadali has stated to me in email and verbally that the six month contract was signed by BP and Swift one day before I signed my 2 year contract with Swift.

Swift knew that I had previously asked by email (attached) for a minimum two year only contract duration. They misrepresented this contract as a two year contract to me when they knew that it was only for 6 months.

They have also been misleading in their advertising on the internet for this position, stating that it was for two plus years (see attached copy of the ad they placed on Rigzone in 1/09 for my replacement). I have complained to their senior director in England (Mr. Stuart Cantley) in the attached email, and he has failed to remedy my complaint. I believe their fraudulent hiring practices violate your professional code of ethics, and I would appreciate your investigating my complaint as detailed in the email below:

This agreement is entered into and made effective the 18th day of Augusth 2008 by and between:

Swift Technical Services LLC, a corporation organized and existing under the laws of the United States with its registered offices at 3050 Post Oak Blvd., Suite 1450, Houston, Texas 77056 (hereinafter referred to as "COMPANY") of the one part and;

Kenneth Abbott (hereinafter referred to as "CONTRACTOR") of the other part;

EXHIBIT A – SPECIFIC CONDITIONS

Project:	**Atlantis Project**
Services:	**Subsea Project Services Leader**
Commencement Date:	**18 August 2008**
Completion Date:	**18 August 2010 (subject to extension)**
Working Hours:	**9/80 Schedule (or in accordance with operational requirements)**
Base Location:	**Houston, Texas - United States**
Rate:	**US $900.00 per day worked**
Medical, dental, vision, life insurance, AD&D Insurance and long term disability:	**Provided by Company for Contractor. Family members may be covered at Contractor's own cost.**
401K:	**Provided by Company for Contractor – Company provides a full (100%) match of contributions made by Contractor, up to 5% of Contractor's gross pay.**

In Witness Whereof, the parties have duly executed this Agreement in duplicate originals.

For and on behalf of **Swift Technical Services LLC**

Karlny Ritter
Contracts Administrator

Date: July 23, 2008

I hereby accept this Agreement on the terms and conditions set out above
Kenneth Abbott

Date: 7/23/08

EXHIBIT B – GENERAL TERMS AND CONDITIONS

1.0 Interpretation

1.2 Reference to any statute, statutory provision or statutory instrument includes a reference to that statute, statutory provision or statutory instrument as from time to time amended, extended or re-enacted.

1.3 Reference to the singular includes a reference to the plural and vice versa and reference to one gender includes a reference to the other gender.

1.4 Headings are used for convenience only and will not affect the construction or validity of this Contract.

2.0 Definitions

2.1 "Affiliate or Affiliates" of a company shall mean a current or future Person directly or indirectly controlling, controlled by, or under common control with such company. "Control" for this purpose shall, in the case of a corporation with outstanding voting stock, require the direct or indirect ownership of or power to vote with respect to outstanding shares of a corporation's capital stock constituting fifty percent (50%) or more of the votes of any class of such corporation's outstanding voting stock, and with respect to any Person other than a corporation, the possession, directly or indirectly, of the power to direct or cause the direction of such person's management or policies.

2.2 "Approved" shall mean approved in writing (including subsequent written confirmation of previous verbal approval) and "Approval" means approval in writing (including subsequent written confirmation of previous verbal approval).

2.3 "Work" shall mean the consulting services to be performed pursuant to this Contract.

2.4 "Work Site(s)" shall mean the location or locations on, under, in, or through which the Work is to be performed by Contractor.

2.5 "Client" shall refer to BP America Production Company.

2.6 "Company" shall mean Swift Technical Services LLC.

2.7 "Contractor" shall mean Kenneth Abbott.

3.0 Performance

Contractor shall perform the Work in a diligent, skillful, safe and workmanlike manner, and in accordance with the highest level of accepted standards within the industry to prompt completion subject to all of the terms and conditions of this Contract and to the satisfaction of Company and Company's representative.

4.0 Contractor to Inform Itself

Contractor is deemed to have accepted the terms and conditions of this agreement upon commencement of the services.

5.0 Insurance

5.1 The Contractor shall not cause or permit the use of any motor vehicle for any business purposes in connection with the Works unless adequate third party insurance cover is in force in respect of such user. The Contractor will at all times keep the Client/Company indemnified against any liability (whether in respect of any insured risk or otherwise) incurred by the Client/Company or arising otherwise in connection with the use of any motor vehicle for any such purpose.

5.2 Contractor shall endeavour to notify Company in the event they are required to work offshore, in order to ensure full insurance compliance

4.0 Payment

4.1 Contractor shall complete timesheets and expense claim forms (where applicable) and submit to Client Representative for approval.

We advise that all timesheets and expenses are due in accordance with the attached payroll schedule.

Expense claim forms must be supported by original receipts.

4.2 Should Client dispute any invoice from Company relating to Contractor's payment which results in Client deducting monies from Company, Company shall deduct the equivalent from Contractor's next payment.

4.3 No payment shall be made by Company to Contractor when absent from work for any reason whatsoever. Only time actually worked by Contractor on the authorised business of client shall be reimbursable.

5.0 Taxation

Unless otherwise stated under Exhibit A, Company may at all times during the continuance of the Services make all such deductions of or on account of income tax, social taxes and such other taxes, contributions, levies or imposts as may from time to time be deductible by or due from the Contract in respect of or in connection with the monies paid by the Company to Contractor.

6.0 Termination

6.1 Company may, at any time, with or without cause, terminate this contract, by giving five (5) Days' written notice to Contractor specifying the date of termination (hereafter referred to as the "Termination Date").

6.2 Regardless of the basis for termination, on the Termination Date, Contractor shall discontinue the Work and comply with the applicable provisions of this Article and any other applicable provisions of the Contract. Contractor shall preserve all work in progress and shall turn over the Work to Client in accordance with Client's instructions.

6.3 Upon termination as provided for in this Article, title to and possession of all permits, licenses, drawings, data, specifications, or other items acquired for Client will immediately thereon pass to and vest in Client.

6.4 Contractor shall not without the prior consent of the Company, for a period of twelve (12) months after the termination of their employment directly or indirectly and whether on their own behalf or on behalf of any other business concern, person, partnership, firm, company or other body, be engaged, concerned or interested in any capacity, in the Client or in any other business which is wholly or partly connected to the project where assigned by the Company under this agreement.

7.0 Medical Policy

7.1 Contractor warrants that they are medically fit to perform the Services.

7.2 Contractor shall complete and sign the attached medical form and return to Company. Failure to do so may constitute as a material breach of this contract and as a result Company may remove Contractor from the area of operations.

7.3 It is the Contractor's responsibility to notify Company should they be required to travel on business outside the USA, in order for the Company to cover them under their emergency medical policy.

7.4 Contractor must ensure that they are medically fit to work on overseas assignments and provide Company with a medical certificate of fitness, prior to undertaking a business trip.

7.5 All costs associated in obtaining the appropriate medical examination must be borne by Contractor.

8.0 Independent Contractor

In the performance of the Work, Contractor is an independent contractor, shall control the performance of the details of the Work, and shall be responsible for the results as well as responsible for ensuring that the performance of the Work is conducted in a manner consistent with appropriate safety, health, and environmental considerations, including, but not limited to, Client's policies thereon. The Work may be supplemented by instructions from Client's representative(s), and Client reserves the rights of observation and inspection to secure satisfactory completion of Work.

9.0 Confidentiality

9.1 Contractor agrees that Client Background Information (as defined in Section 14.1), Developed Information (as defined in Section 14.2), and any other technical or business information (hereinafter "Client Confidential Information") that is disclosed to Contractor in connection with any Work hereunder by Client, either orally or in writing, is to be treated as confidential and proprietary. Contractor agrees that Client Confidential Information will be maintained in strict confidence and not used or disclosed to Third Parties other than in performing Work for Client. The requirement to maintain information in strict confidence, however, shall not apply to Client Confidential Information that: (i) is or becomes generally available to the public through no wrongful act of Contractor; (ii) was in the possession of Contractor prior to the time it was acquired hereunder and was not acquired, directly or indirectly, from Client or its Affiliates or from others under an obligation of confidentiality; (iii) is independently made available as a matter of right to Contractor by a Third Party without obligations of confidentiality, provided that such Third Party did not acquire such information directly or indirectly from Client or its Affiliates; or (iv) is required by law to be divulged, provided that Contractor must notify Client prior to any disclosure, and must assist Client in minimizing the extent of disclosure.

9.2 Contractor acknowledges and agrees that Client, in its sole discretion, may deliver and/or store Client Confidential Information in digital form on the Internet, extranets and/or through public networks and service providers. Such digital information will be stored on internal or external computers and accessed from public telecommunications networks, and will be accessible by a controlled group of Persons (the "Controlled Group"). Contractor agrees that the delivery and storage of such Client Confidential Information in this manner must not be deemed as making the information generally available to the public, even if such Client Confidential Information is accessed by Persons who are not within the Controlled Group.

9.3 Contractor must not disclose Client Confidential Information to any Third Party or use it or any part thereof except in the performance of the Work. Contractor must not make nor permit the making of any copies, abstracts, derivatives, or summaries of any Client Confidential Information, except in the performance of the Work. Upon completion of Work for Client, or at Client's request, Contractor must return all Client Confidential Information (including, but not limited to, all copies, abstracts, derivatives, and summaries).

9.4 No press release or other public announcement or public disclosure having or containing any reference, either directly or by implication, to this Contract or the transactions herein contemplated, or to Client or any other Persons of Client Group, will be made or used by Contractor or on its behalf, unless the same has been Approved by an authorized officer of Client. This prohibition specifically includes, but is not limited to, any public release (either through print or broadcast news media), any articles prepared for internal or external publication, technical papers, and discussions with journalists or other Third Parties.

10.0 Force Majeure

Except as may be specifically otherwise provided in this Contract, neither Party shall be liable for delays in performance or for non-performance directly occasioned or caused by Force Majeure. Should conditions in the location where the Work is performed, in the reasonable opinion of Company, become such that continuance of the Work would be unduly hazardous, Company may suspend the Work and such suspension will be considered Force Majeure. Inability of either Party to secure funds will not be regarded as Force Majeure. Upon the occurrence of Force Majeure, the Party affected shall give immediate notice thereof to the other Party and shall, at its cost and expense, do all things reasonably possible to remove or mitigate its effects

11.0 Suspension

11.1 Company shall have the right to suspend all or any part of the Work at any time and at its sole discretion by giving written notice of suspension to Contractor.

11.2 Upon termination of any such suspension, Contractor shall immediately re-commence the Work under the terms and conditions of this Contract with the same labor and resources as were previously employed on the Work.

12.0 Compliance with Laws

12.1 Company warrants that Contractors are familiar with and knowledgeable about all relevant laws, rules regulations, decrees, federal, state and local, which are now or may become applicable to the Contract and any Work performed in connection herewith, including without limitation, those pertaining to immigration, health, safety, security, and environmental protection (hereinafter sometimes referred to as the "Laws") and Contractor warrants that in conducting the Work hereunder it will comply with all such Laws.

12.2 Contractor shall not pay any fee, commission, rebate, or other value to or for the benefit of any governmental official having jurisdiction over the Work Site, if such payment would be inconsistent with or penalized by the laws and regulations of the United States.

12.3 Contractor agrees to Indemnify Company Group from and against any Claims/Losses resulting from Contractor's failure to comply with all applicable Laws.

12.4 If any portion of the Work will occur on the Outer Continental Shelf, then Company shall supply individuals who are authorized under the laws of the United States to perform the Work. Any individual who lacks such authorization will not be allowed to take part in the portion of the Work that occurs on the Outer Continental Shelf.

13.0 Intellectual Property and Indemnification

13.1 Background Information. "Information" means any information embodied in any tangible form including, but not limited to, a work of authorship, a process diagram, a drawing, a blueprint, a model, a specification, a report, a manuscript, a document, a manual, a photograph, a database, a computer program, a design for an apparatus or process or system, working notes, a plan, or a model. "Contractor Background Information" means any Information that was created by or for Contractor prior to making this Contract that is directly related to the Work, and Information that was made at no expense to Client. "Client Background Information" means any Information that was created by or for Client prior to making this Contract, and Information that is directly related to the Work. All Client Background Information is Client's property, must not be used by Contractor for any purpose except for the performance of the Work, and must be returned to Client at the completion of the Work or upon Client's request. All IP Rights (defined in Section 13.3) in Client Background Information remains the property of Client. All IP Rights in Contractor Background Information remains the property of Contractor. Each Party hereby grants to the other Party a non-exclusive, irrevocable, worldwide, royalty-free right and license to use and to copy its Background Information solely in connection with and for the performance of the Work.

13.2 Tangible Personal Property. "Developed Information" means all Information that is embodied in any tangible form and that is created by Contractor for Client in performance of the Work. Client owns all right, title, and interest in and to Developed Information. Ownership of Developed Information does not include ownership of any Contractor Background Information that may be embedded in the Developed Information. Developed Information must be clearly marked by Contractor as Client's property. Unless clearly and unequivocally stated otherwise in writing and expressly agreed to by Client, Contractor must furnish to Client at least one (1) tangible copy of Developed Information, or any part thereof upon request by Client, and at least one (1) tangible copy of Developed Information upon completion of the Work. If requested by Client, appropriate portions of such Developed Information will be furnished in electronic format.

13.3 Intangible Personal Property. "Intellectual Property Rights" ("IPR" or "IP Rights") means copyrights, patents, trade secrets, and other intellectual property rights. "Underlying Contractor IP Rights" means IP Rights that are owned by or licensed to Contractor, and that cover Contractor Background Information embedded in the Developed Information (or any part thereof). With the exception of Underlying Contractor IP Rights, all IP Rights in and covering the Developed Information and created by Contractor hereunder vest solely in Client ("Client IPR"); provided, however, that Client hereby grants to Contractor a non-exclusive, non-transferable, worldwide, royalty-free right and license under such Client IPR to use such Developed Information only for the benefit of Client. IP Rights in the form of trade secrets will be disclosed to the other Party only to the extent necessary and only for the purpose of performing the Work.

13.4 Copyrights. With the exception of any Underlying Contractor IP Rights, all Developed Information in the form of original works of authorship which are fixed in any tangible form and created by or on behalf of Contractor hereunder (hereinafter collectively referred to as "Creative Materials") and which are covered by the definition of "work for hire" under 17-U.S.C. 101 of the U.S. Copyright Act of 1976, are considered a "work for hire," and Client is the owner of all copyrights in any such works. As to any such Creative Materials created for Client which are not covered under the aforementioned "work for hire" definition of the Copyright Act, such that Contractor is regarded as the copyright author and owner, Contractor agrees to assign and hereby assigns all such copyright ownership in the Creative Materials to Client. Any copyright notice displayed on the Creative Materials must be in Client's name and not in Contractor's name. Contractor agrees to execute and deliver to Client any required documents and do all acts necessary to perfect Client's entire right, title, and interest in the Creative Materials. Client has the right to photograph, reproduce, copy, duplicate, modify, and make any use of Developed Information under any copyrights or equivalent rights held by Contractor.

13.5 Inventions. Contractor hereby assigns, conveys, and transfers to Client (and must require its employees, agents, representatives, and subcontractors to assign, convey, and transfer to Client), without further consideration, each and every invention, discovery, or improvement that is made, conceived, or developed by Contractor or such others as a direct result of performing the Work. Contractor must promptly notify Client whenever an invention, discovery, or improvement is made, conceived, or developed. Upon Client's request, Contractor must execute any required documents and do all acts necessary to perfect Client's entire right, title, and interest in such inventions, discoveries, and improvements. Client has sole responsibility for the preparation, filing, and prosecution of all applications for Letters Patent and will bear all costs and expenses in connection therewith. Client is under no obligation to file any patent application, secure any patent, or maintain any patent in force.

13.6 Covenants. Contractor represents that it has not and will not breach or infringe any IP Rights of any Third Party in performance of the Work. Contractor must inform Client if Contractor requires any license or similar right under a Third Party's IP Rights, or the performance of the Work requires the payment of any royalty or similar fee by or for Client. Contractor agrees to Indemnify Client Group from any Claim/Loss which may be brought against any member of Client Group at any time for breach of contract or infringement of any IP Rights allegedly relating to the performance of any Work hereunder; provided, however, that Client promptly notifies Contractor in writing of the institution of such action or suit and permits Contractor to control its Defense. Contractor must Indemnify Client Group from any damages or other sums awarded or assessed in any such action or suit. Any settlements thereon must be Approved by Client. Client may be represented by counsel of its own selection at its own expense, and agrees to cooperate fully in the Defense of any such action or suit.

13.7 Client Rights. Unless clearly and unequivocally stated otherwise and expressly agreed to by Client in writing, if the Work includes, but is not limited to, engineering or professional services, technical assistance or consultation, or authoring or creating a design or a plan for equipment, hardware, software, apparatus, process, and/or system, and if the Contractor will not make, not build, not construct, or not obtain for Client such equipment, hardware, software, apparatus, process, or system, Contractor grants to Client Group and/or will obtain for Client Group, a royalty free, paid-up, non-exclusive, irrevocable, world-wide license and right: (i) to own and have possession of all forms of such design or plan; (ii) to copy and make derivatives of such design or plan; (iii) to use such design or plan; (iv) to make all such equipment, hardware, software, apparatus, process, and/or system from such design or plan; (v) to import, use, install, test, commission, operate, maintain, alter, repair, rebuild, retrofit, convert, and decommission such equipment, hardware, software, apparatus, process, and/or system without limitation; (vi) to sell, offer for sale, donate, lease, sublease, and rent such equipment, hardware, software, apparatus, process, and/or system; and (vii) to assign and transfer any or all of such rights without limitation.

Contractor agrees that if Contractor cannot grant to Client the rights to do all the things described in this Section 13.7, it will obtain such rights at no cost to Client.

14.0 Applicable Law

14.1 This Contract may govern Work furnished by Contractor to Company in several different jurisdictions. With respect to the selection of governing law in this Article, the Parties stipulate that certainty of enforcement is an important expectation negotiated between the Parties in entering this Contract.

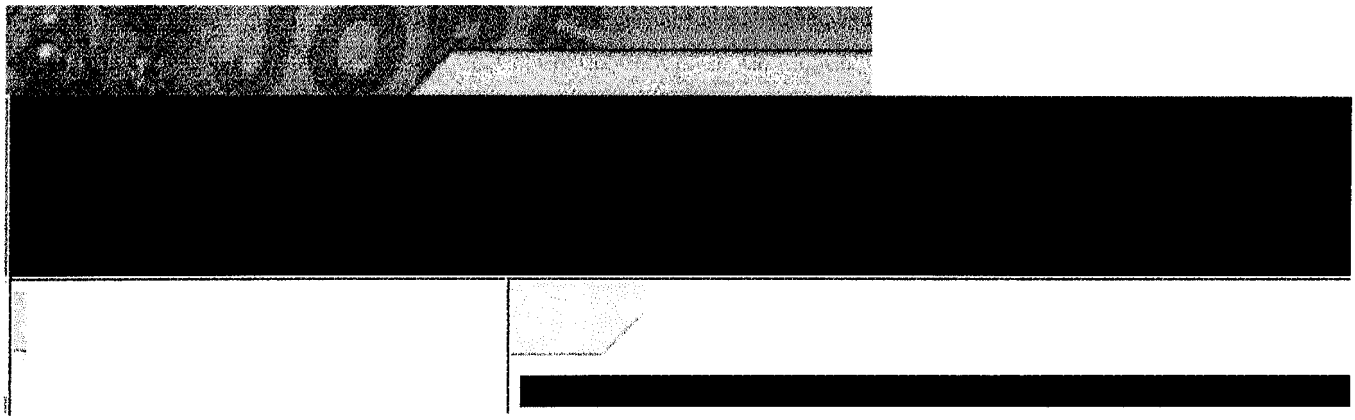
14.2 To the maximum extent permissible, this Contract, and any action Connected With this Contract brought by either Party (and any action brought by any member of Company Group or Client Group or any Third Party asserting a third party beneficiary claim pursuant to this Contract) shall be governed by the laws of the State of Colorado.

14.3 In the event Colorado law is held to be inapplicable by a court of competent jurisdiction, the laws of the state where the Work is performed hereunder shall apply unless application of such law to a particular provision would prevent enforcement of such provision, in which case the law applicable to such provision shall be any potentially applicable law that would allow enforcement of said provision as written.

15.0 Code of Conduct

In connection with Contractor's performance of this Contract, Contractor agrees to act consistently with the BP Code of Conduct (www.bp.com) and to adhere to the principles set out therein, including our principles of non-retaliation against "whistle blowers." Any failure to do so by Contractor shall be deemed a material breach of this Contract.

RIGZONE.com
your gateway to the oil and gas industry



andidates:

- Candidate Home
- Post Your Resume
- Search Jobs
- Edit Your Resume
- Your Career Center

- Downstream Jobs
- Students & Graduates

Candidate Help:

- How it Works
- FAQ

Training:

- Training Center Home
- Training Providers
- Training Events

- Training Books
- Reference Books

Recruiters:

- Recruiter Home

NEWSLETTERS

Rigzone Job Alert: Twice per month this email notifies you of the latest job openings posted by leaders in the oil & gas industry.

Subscribe Today: Your Email Here

Subscribe

(hidden)

Your email is safe with us.
Read our privacy policy

advertising

You Are Here: Jobs >> Engineer - General Job Postings >> Job Po

Friend's Email:

Your Email:

Subject: Project Services Lead - Houston, TX - Job Open

Employer: S
Desired Expertise: E
Experience: 1
Education: E
Salary: T
Location: H
Date Updated: 1

Job Description:

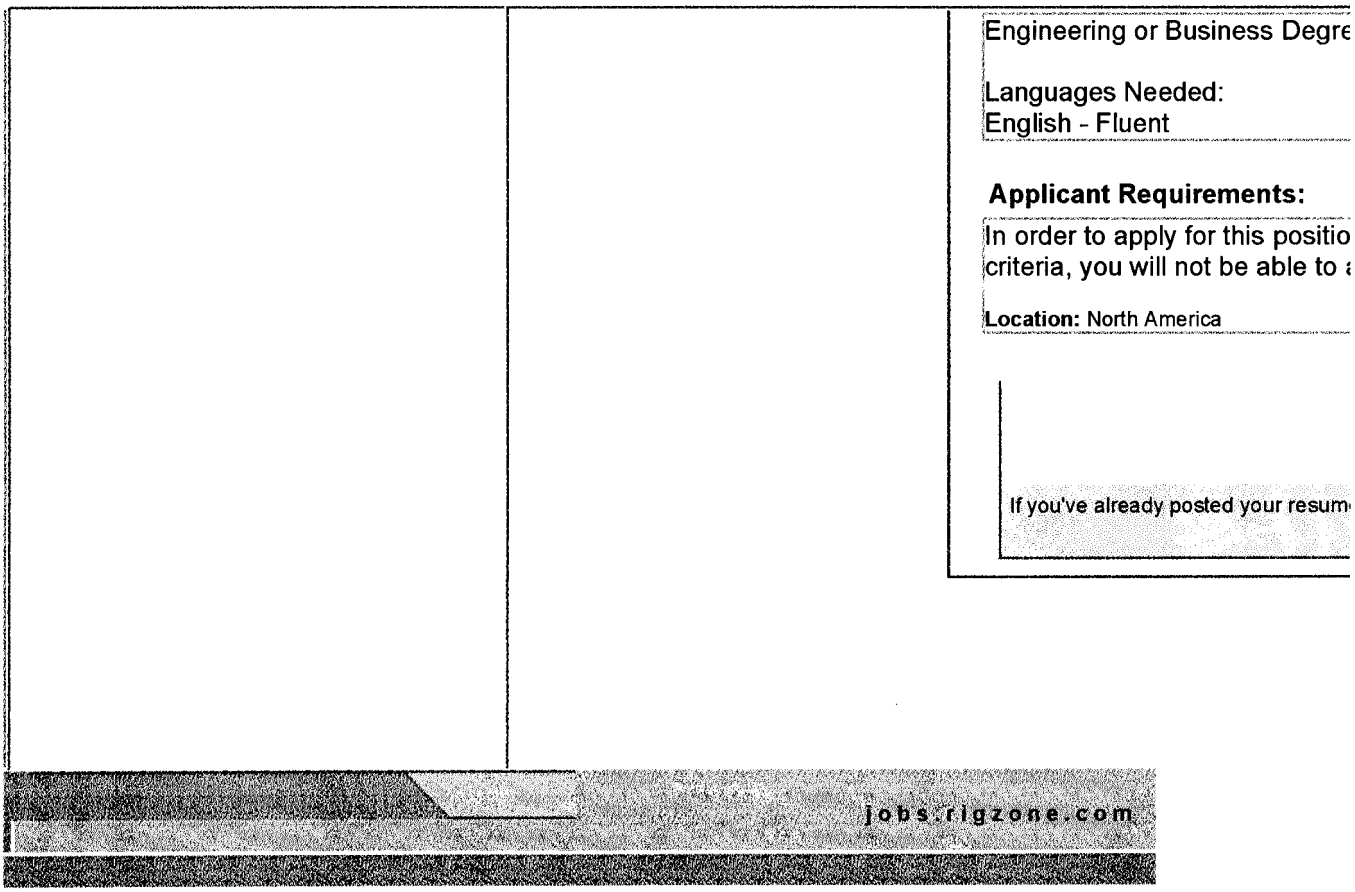
MAJOR operator seeking Proje
will be provided with FREE me

Project Services Lead
Location: Houston, TX
Duration: 2 years +
Rotation: 9/80 schedule
Start Date: ASAP
Rate: To be proposed by intere

Based in Houston and will invo
will likely eventually be located
Manager and will eventually en
Engineer and a Project Service
reporting relationship in to the I
the following areas: Ability to le
skills.

Experience:
A minimum of 10 years relevan
desirable and deepwater exper

Education / Certifications:
Engineering or Business Degre


Engineering or Business Degre
Languages Needed:
English - Fluent
Applicant Requirements:
In order to apply for this positio
criteria, you will not be able to
Location: North America
If you've already posted your resum
jobs.rigzone.com

Unknown

From: Kenneth Abbott [kwabbott@comcast.net]

Sent: Sunday, July 06, 2008 6:16 PM

To: 'Lori Rektorik'

Subject: RE: Job Opportunity

Lori I am primarily looking for permanent positions in Houston only but will consider contract in Houston depending on the rate and duration(2 years)...

From: Lori Rektorik [mailto:lrektorik@swift-houston.com]
Sent: Sunday, July 06, 2008 6:28 PM
To: kwabbott@comcast.net
Subject: Job Opportunity

Kenneth,

Thank you for your interest in the Scheduler position I am currently recruiting for. I think your experience looks great and I would love to get your information over to our clients ASAP. We actually have several opportunities available in Planning/Scheduling and Cost, so we might be able to get your information over for several different opportunities.

I have listed a few of the opportunities below for your review:

Position 1:

Location:	Houston, TX and then possibly Pascagoula, MS
Client:	Chevron
Project:	Pascagoula Refinery Expansion Project
Position:	**Planner/Scheduler**
Rate:	To be proposed by candidate – day rate
Rotation:	9/80
Duration:	Long term (2-4 years)
Start Date:	Immediately

Chevron is looking for someone with extensive experience in planning/scheduling, who has taken on leadership roles, particularly over several projects at one time. The Lead Scheduler will plan and schedule major refinery projects and interface with other projects in the Pascagoula, MS refinery. Extensive Primavera experience is a must (P5 or P6 preferred), and a strong construction background is preferred. This position will start in the Houston area and then possibly move to Pascagoula, MS.

Position 2:

Location:	Angola
Client:	Chevron
Project:	Angola LNG
Position:	**Senior Planner/Scheduler**
Rate:	To be proposed by candidate (considering 15% Angolan tax)
Rotation:	28:28 rotation
Duration:	Long term (3-4 years)
Start Date:	ASAP

Duties include:
-Manage planning and scheduling systems for large complex projects
-Design and implement progress and schedule control system for project
-Develop reporting methods and generate reports on regular basis
-Supervise assigned project controls personnel

Position 3:

Location:	Houston, TX
Client:	BP
Project:	Thunderhorse

Position:	**Senior Planner/Scheduler**
Rate:	To be proposed by candidate
Rotation:	9/80
Duration:	Long term (1-1.5 years)
Start Date:	ASAP

We don't have a job description for this role yet, however they let us know they are looking for a Project Controls guy with extensive experience in Planning/Scheduling. They are looking for someone with Shutdown experience as well.

Position 4:	
Location:	Prudhoe Bay, Alaska
Client:	BP
Project:	Greater Prudhoe Bay SPU
Position:	**Sr Integrated Facility Scheduler**
Rate:	To be proposed by candidate – day rate for every day worked
Rotation:	1 week:1 week or 2 weeks:2 weeks
Duration:	Long term (1+ years)
Start Date:	ASAP

I have attached the provided job description for your review.

Please send me an updated copy of your resume at your earliest convenience. Please also advise on your availability and a desired day rate. I look forward to your reply.

Kind regards,

Lori Rektorik
Recruitment Consultant
Swift Technical Services LLC
Main: +1 713 328 4560
Direct: +1 713 579 0309
Cell: +1 832 495 1705
Fax: +1 713 328 4561
www.swiftoilandgas.com

This message is intended only for the stated addressee(s) and may be confidential. Access to this email by anyone else is unauthorised. Any opinions expressed in this email do not necessarily reflect the opinions of Swift Technical Group Limited, its subsidiary or associated companies.
Any unauthorised disclosure, use or dissemination, either whole or in part is prohibited. If you are not the intended recipient of this message, please notify the sender immediately.

Unknown

From: Kenneth Abbott [kwabbott@comcast.net]
Sent: Thursday, March 05, 2009 11:41 PM
To: clynch@swift-houston.com; pasha.eatedali@ombudsmanecp.com
Subject: FW: K Abbott meeting with Chris Lynch - additional info
Attachments: ATT00043.eml (173 KB); Job Opportunity (22.0 KB)

Chris/Pasha – Please note the attached email from me to Lori Rektorik with Swift dated 7/6/08. Not only did I verbally tell Swift and BP that I wanted only a two years or longer position, I also put it in writing in this email before I was hired.

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Thursday, March 05, 2009 11:00 PM
To: 'pasha.eatedali@ombudsmanecp.com'
Subject: FW: K Abbott meeting with Chris Lynch

FYI Pasha...please note that I signed my contract with swift on 7/23/08, evidently the day after swift and bp signed their 6 month contract for me mentioned below. It is very apparent that both Swift's Kerri Walsh and Naseman of BP knew they were committing fraud to induce me in. I told both of them that I wanted a long term 2 year assignment before I signed and they both agreed this was two years or longer. Also, when I was advised by the bp computer system in January 2009 that my contract ended on 2/27/09, I asked Naseman what was going on, and for a copy of any contract with that new date of 2/27/09 on it and he refused to let me see it. He let me see all the other of my staff's contracts so why not mine? It was because he knew he was committing fraud and did not want to get caught at it...

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Thursday, March 05, 2009 2:08 PM
To: 'clynch@swift-houston.com'; 'Paul.Egner@bp.com'
Cc: 'kowrey@swift-houston.com'
Subject: FW: K Abbott meeting with Chris Lynch

Chris/Paul – I do not agree with your letter re my termination. My termination was a breach of the terms of my contract with you and I need to be paid for the remaining 18 months of my contract. Please advise when that will be done. Chris - Also, please advise when you will complete your investigation of my complaints of retaliatory discharge.

New information from Pasha Eatedali with the BP ombuds office confirms that both Swift and BP were fraudulent in my hiring and colluded to deceive me regarding the duration of my contract. Here are the details:

- I just talked with Pasha – BP ombudsman – and he informed me of the following: BP/Swift (Kerri Walsh) both signed a "contract services procurement requisition" dated 7/21/08 and a "release against the master agreement" dated 7/22/08 which spell out a 6 month contract term for me from 8/18/2008 to 2/27/2009. This is in direct conflict with the contract I signed with you for a 2 year term from 8/18/2008 to 8/18/2010. I was never made aware of this "other", shorter term contract with BP and Swift, and I think this shows collusion between both of you to commit fraud, to enduce me to sign with you for what appeared to be a long term contract, and is certainly a breach of my contract. Pasha stated that the fault for this lies with Swift, but I think you both are equally to blame. Also, can you please send me copies of these two agreements you signed with BP?
- As I have stated previously, the reason for my termination was not due to a slowdown of the Atlantis project and reduction in force, but was instead retaliation. As the ombudsman for BP stated in my chronology of events I sent you earlier (see yellow text, he was not buying the reduction in force reason either).

January 15, 2009

1. Swift Oil and Gas posts an employment opportunity for the position of "Project Services Lead" for a "MAJOR operator" that calls for a contract person to work on a "long-term Gulf of Mexico project." Kerri Walsh of Swift tells Ken Abbott that the position was for the BP GOM Atlantis, and that Bill Naseman has interviewed two candidates for the position. This is obviously an ad for Abbott's replacement and a contract position. Also, Naseman told Abbott and Eddie Antoine and Sim Powell (all managers in Naseman's group) in a meeting on 1/12/09 that he was also seeking to hire a senior cost engineer contractor for the topsides group for the Phase 2 Atlantis work. Why was Abbott not allowed to move into this position or even be considered for it?
    1. *Raises questions as to whether BP planned on hiring another contract employee to replace Mr. Abbott – shortly after Mr. Naseman had confronted Mr. Abbott about the incident with Mr. Clark. This job posting is in direct contrast to the information BP provided the OoO regarding the Project Services Lead position.*

From: Christopher Lynch [mailto:clynch@swift-houston.com]
Sent: Tuesday, February 24, 2009 3:03 PM
To: 'Kenneth Abbott'
Cc: kowrey@swift-houston.com
Subject: RE: K Abbott meeting with Chris Lynch

Ken, it was good meeting up with you. I will follow up with Parsha at BP. In the meantime here's the letter I discussed with you to confirm your Termination of Contract for Services.

Kind regards

Chris

Christopher Lynch | Area Director - USA

Direct +1 713 328 4566 | Main +1 713 328 4560 | Fax +1 713 328 4561 | Cell +1 832 755 9741

swift
oil and gas

This message is intended only for the stated addressee(s) and may be confidential. Access to this email by anyone else is unauthorised. Any opinions expressed in this email do not necessarily reflect the opinions of Swift Technical Group Holdings Limited, its subsidiary or associated companies.

www.swiftoilandgas.com

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Monday, February 23, 2009 2:07 PM
To: clynch@swift-houston.com
Cc: kowrey@swift-houston.com
Subject: K Abbott meeting with Chris Lynch

Chris/Kelly – tomorrow would be a good time for me to meet with Chris – say around 10AM – is that okay. Can you confirm and send me directions please...

From: Kelly Owrey [mailto:kowrey@swift-houston.com]
Sent: Monday, February 23, 2009 12:30 PM
To: 'Kenneth Abbott'
Cc: 'Christopher Lynch'
Subject: RE: Your investigation/Corrective Measures re my complaints of retaliatory discharge and breach of contract by BP
Importance: High

Hi Ken,

I just wanted to let you know I have sent this on to our Area Director, Chris Lynch (copied) to handle.

Chris would like to set up a meeting with you to discuss this further so please let him know when you are available.

Kind regards,

Kelly Owrey

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Saturday, February 14, 2009 12:34 AM
To: kowrey@swift-houston.com
Subject: FW: Your investigation/Corrective Measures re my complaints of retaliatory discharge and breach of contract by BP

Kelly – please note that ('pasha.eatedali@ombudsmanecp.com') is the ombudsman investigating my complaints for BP and has the same information I have sent you.

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Saturday, February 14, 2009 12:20 AM
To: 'kowrey@swift-houston.com'
Subject: FW: Your investigation/Corrective Measures re my complaints of retaliatory discharge and breach of contract by BP

Kelly – I am resending this because the previous email had some format errors...

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Saturday, February 14, 2009 12:13 AM
To: 'kowrey@swift-houston.com'
Subject: Your investigation/Corrective Measures re my complaints of retaliatory discharge and breach of contract by BP

Kelly - do you have any feedback for me yet regarding my complaint to you and Kerri Walsh regarding the retaliatory discharge and breach of contract by BP? FYI, I have also attached the detailed description of my charges given to BP and to Kerri (with some update information). Note the comments in yellow highlight - they are by the BP Ombudsman. Also, attached below is the EEOC guidance on the needed response by a staffing firm (same as required by the client) when discrimination/retaliation claims are made to them. I would like to make sure these actions are being taken on my behalf by Swift.

EEOC Guidance on Staffing Firms responsibility to respond to a complaint of discrimination/retaliation by one of

Staffing Firm: The firm is liable if it participates in the client's discrimination. For example, if the firm honors its client's request to remove a worker from a job assignment for a discriminatory reason and replace him or her with an individual outside the worker's protected class, the firm is liable for the discriminatory discharge. The firm also is liable if it knew or should have known about the client's discrimination and failed to undertake prompt corrective measures within its control.33

The adequacy of corrective measures taken by a staffing firm depends on the particular facts. Corrective measures may include, but are not limited to: 1) ensuring that the client is aware of the alleged misconduct; 2) asserting the firm's commitment to protect its workers from unlawful harassment and other forms of prohibited discrimination; 3) insisting that prompt investigative and corrective measures be undertaken; and 4) affording the worker an opportunity, if (s)he so desires, to take a different job assignment at the same rate of pay. The staffing firm should not assign other workers

to that work site unless the client has undertaken the necessary corrective and preventive measures to ensure that the discrimination will not recur. Otherwise, the staffing firm will be liable along with the client if a worker later assigned to that client is subjected to similar misconduct.34

From: Kelly Owrey [mailto:kowrey@swift-houston.com]
Sent: Tuesday, February 10, 2009 10:15 AM
To: 'Kenneth Abbott'; Paul.Egner@bp.com
Subject: RE: Ken Abbott's Employment contract

All,

We will look into this and revert back to you both as soon as possible.

Thanks,

Kelly Owrey

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Tuesday, February 10, 2009 9:21 AM
To: Paul.Egner@bp.com
Cc: 'Kelly Owrey'
Subject: Ken Abbott's Employment contract

Paul – This is to advise that I was discharged today. Since you are the Sourcing contract administrator for BP Atlantis, I am writing to inform you of a breach of my employment contract by BP. Because the contract was breached by Bill Naseman of BP, and as per the Texas payday law, I am requesting full payment of the approximately 18 months remaining on my 2 year contract within six days of my last day on the payroll (2/10/09). The specifics of the breach are detailed below. I have also attached my signed contract for your review.

Kelly – By copy of this email, I am also requesting that you enforce this contract and act to resolve this breach as the contracts administrator for Swift.

- I originally signed a two year contract with BP. During the week of 1/6/09, I discovered that the material terms of that contract had been illegally changed by Bill Naseman. He reduced the term of the contract to six months with a new completion date of 2/27/09, without my agreement or signature to the contract. During the week of 1/6/09, I received an email from the BP computer system admin, advising me that my contract end date was now 2/27/09 and I would need to get authorization to renew the end date or my access to the system would be denied on that date. I emailed and called Bill Naseman to find out what was going on during that week and got no answer. On 2/4/09, as per the BP ombudsman Billie Garde, in a meeting with Naseman and Simon Todd to discuss my retaliatory discharge, Simon Todd told the ombudsman that my contract end date was 2/27/09 instead of the original 8/18/2010.
- Since my termination was a retaliatory discharge by Naseman, (and there is substantial evidence that it was retaliation) the contract has also been violated and BP is in breach, because the contract calls for no retaliatory behavior, and because the dismissal violated US employment laws. Naseman terminated me in retaliation for my trying to resolve Becky Cavailer's complaint to me of harassment and discrimination by Alan Clark.

Unknown

From: ricoh_copier@swift-houston.com
Sent: Wednesday, February 25, 2009 1:59 AM
To: Chris
Attachments: 20090225025912548.pdf

This E-mail was sent from "RNPDDDBDE" (Aficio MP C4500).

Scan Date: 02.25.2009 02:59:12 (-0500)
Queries to: ricoh_copier@swift-houston.com

swift
oil and gas

Swift Technical Services, LLC
3050 Post Oak Blvd., Suite 1450
Houston, Texas 77056
t: +1 713 328 4560
f: +1 713 328 4561
e: info@swift-houston.com
www.swiftoilandgas.com

February 24, 2009

Kenneth Abbott
9726 Refugio Court
Houston, Texas 77064

Dear Mr. Abbott

Re: Termination of Contract for Services

Swift received information from you regarding your Termination of Contract for Services (the "Contract"). I wish to confirm the events which led to the termination of your Contract.

Swift terminated your Contract for Services with BP America Production Company due to the slowdown on the BP Atlantis project, Phase 2, to which you were assigned. As a result of the downturn in the oil and gas market, BP re-structured the project team and consolidated the two Project Services Lead positions into one position.

Furthermore, Section 6.1 of the Contract for Services executed by you and Swift provides that Swift "may, at any time, with or without cause, terminate this contract, by giving five (5) days written notice to Contractor specifying the date of termination." Accordingly, Swift provided you with proper notice to terminate your Contract for Services.

Yours sincerely,

Chris Lynch
Area Director - USA

Unknown

From: Kenneth Abbott [kwabbott@comcast.net]

Sent: Sunday, July 06, 2008 6:16 PM

To: 'Lori Rektorik'

Subject: RE: Job Opportunity

Lori I am primarily looking for permanent positions in Houston only but will consider contract in Houston depending on the rate and duration(2 years)...

From: Lori Rektorik [mailto:lrektorik@swift-houston.com]
Sent: Sunday, July 06, 2008 6:28 PM
To: kwabbott@comcast.net
Subject: Job Opportunity

Kenneth,

Thank you for your interest in the Scheduler position I am currently recruiting for. I think your experience looks great and I would love to get your information over to our clients ASAP. We actually have several opportunities available in Planning/Scheduling and Cost, so we might be able to get your information over for several different opportunities.

I have listed a few of the opportunities below for your review:

Position 1:

Location:	Houston, TX and then possibly Pascagoula, MS
Client:	Chevron
Project:	Pascagoula Refinery Expansion Project
Position:	**Planner/Scheduler**
Rate:	To be proposed by candidate – day rate
Rotation:	9/80
Duration:	Long term (2-4 years)
Start Date:	Immediately

Chevron is looking for someone with extensive experience in planning/scheduling, who has taken on leadership roles, particularly over several projects at one time. The Lead Scheduler will plan and schedule major refinery projects and interface with other projects in the Pascagoula, MS refinery. Extensive Primavera experience is a must (P5 or P6 preferred), and a strong construction background is preferred. This position will start in the Houston area and then possibly move to Pascagoula, MS.

Position 2:

Location:	Angola
Client:	Chevron
Project:	Angola LNG
Position:	**Senior Planner/Scheduler**
Rate:	To be proposed by candidate (considering 15% Angolan tax)
Rotation:	28:28 rotation
Duration:	Long term (3-4 years)
Start Date:	ASAP

Duties include:
-Manage planning and scheduling systems for large complex projects
-Design and implement progress and schedule control system for project
-Develop reporting methods and generate reports on regular basis
-Supervise assigned project controls personnel

Position 3:

Location:	Houston, TX
Client:	BP
Project:	Thunderhorse

Position:	**Senior Planner/Scheduler**
Rate:	To be proposed by candidate
Rotation:	9/80
Duration:	Long term (1-1.5 years)
Start Date:	ASAP

We don't have a job description for this role yet, however they let us know they are looking for a Project Controls guy with extensive experience in Planning/Scheduling. They are looking for someone with Shutdown experience as well.

Position 4:	
Location:	Prudhoe Bay, Alaska
Client:	BP
Project:	Greater Prudhoe Bay SPU
Position:	**Sr Integrated Facility Scheduler**
Rate:	To be proposed by candidate – day rate for every day worked
Rotation:	1 week:1 week or 2 weeks:2 weeks
Duration:	Long term (1+ years)
Start Date:	ASAP

I have attached the provided job description for your review.

Please send me an updated copy of your resume at your earliest convenience. Please also advise on your availability and a desired day rate. I look forward to your reply.

Kind regards,

Lori Rektorik
Recruitment Consultant
Swift Technical Services LLC
Main: +1 713 328 4560
Direct: +1 713 579 0309
Cell: +1 832 495 1705
Fax: +1 713 328 4561
www.swiftoilandgas.com

This message is intended only for the stated addressee(s) and may be confidential. Access to this email by anyone else is unauthorised. Any opinions expressed in this email do not necessarily reflect the opinions of Swift Technical Group Limited, its subsidiary or associated companies.
Any unauthorised disclosure, use or dissemination, either whole or in part is prohibited. If you are not the intended recipient of this message, please notify the sender immediately.

E-mail 54 of 61

Unknown

From: Kenneth Abbott [kwabbott@comcast.net]

Sent: Sunday, March 22, 2009 10:32 PM

To: 'greg.farnham@bp.com'

Cc: 'pasha.eatedali@ombudsmanecp.com'

Subject: Request for Ken Abbott personnel file and other information

Greg, I have previously requested all of the below items from Bill Naseman (except for my personnel file) but he would not give them to me. Pasha Eatedali of your ombuds office has recently advised me by email that I should now be able to get this info from your HR office. Please email me the following items:

1. I need a copy of he email from Alan Clark sent to Johnn Schwebel during late December 08 or early January 09 regarding his explanation for leaving the company and his accusations against me and Becky Cavalier. Also, I would like to know if any disciplinary action was taken against Mr. Clark for his harassment of Becky Cavalier, and is he still with the company in Aberdeen?

2. I would like a copy of the contract between Swift and BP signed by Kerri Walsh and Bill Naseman allegedly showing only a six month term for my employment.

3. I would also like anything that has been put in my personnel folder at BP.

Exhibit “D” to Declaration of David L. Perry (Part 2 of 2)

H

E-mail 55 of 61

Unknown

From: Kenneth Abbott [kwabbott@comcast.net]
Sent: Tuesday, March 24, 2009 2:24 PM
To: 'tony.hayward@bp.com'
Cc: 'neil.shaw@bp.com'; 'paul.mcintyre@bp.com'; 'pasha.eatedali@ombudsmanecp.com'
Subject: FW: recruiting fraud by Swift Technical Services and BP and my retaliatory discharge
Attachments: K Abbott meeting with Chris Lynch - additional info (242 KB); abbott chronology1.doc; More information for your investigation

Dear Mr. Hayward:

I am contacting you as a last resort within BP for assistance. I have been a victim of employment fraud, misrepresentation, and wrongful discharge when I complained of dangerously incomplete drawings on offshore production units, and also because I tried to stand up for a female employee who was being discriminated against and harassed by a male employee at BP.

Seven weeks have passed since my wrongful termination, and BP has taken no action to remedy the problem. In particular, I contacted the bprecruiting@bp.com on 3/9/09 with the below email, and they have not even bothered to respond. The site says they want to know about and will prosecute hiring scams, but they have not. Also, the BP ethics page guarantees fair play and integrity, as summarized below. Both BP and their employment agency vendor Swift Technical Services have failed in their ethics commitment to me and the company needs to provide a remedy.

Summary of BP ethics commitment from their code of conduct:
BP is committed to setting high ethical standards: to be, and be recognized as, a business committed to integrity. The BP Code of Conduct is the cornerstone of this commitment to integrity, holding BP employees and representatives accountable for creating mutual advantage while conducting business honestly, responsibly and fairly. BP recognizes its supplier network as a valuable component of PSCM. As such, BP seeks to do business with suppliers who comply with legal requirements and who act in a manner that is consistent with BP's ethics as outlined in the code

Thanks so much for your help in this matter. I think a lot of BP and I only want the justice and fair play I was promised.

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Monday, March 09, 2009 4:27 PM
To: 'bprecruiting@bp.com'
Cc: 'pasha.eatedali@ombudsmanecp.com'
Subject: recruiting fraud by Swift Technical Services and BP and my retaliatory discharge

BP recruiting office:

As per the instructions on your BP career site, I wish to report a recruiting scam being executed by both BP employee (Bill Naseman) and one of your contract employment agencies, Swift Technical Services in Houston. I have reported this recruitment fraud to your ombuds office, but they blame the contractor company Swift. BP is equally at fault as my co-employer and has full knowledge of and is participating in the scam. So far, Swift and BP refuse to do anything about it. The attached email gives the specifics of the recruiting scam, and I am requesting that you act to stop this fraud and to correct the wrong that has been done to me by paying me for the 18 months of salary still due me.

Here is a summary of the fraud:

I answered an ad on the internet for a long term assignment (2+ years). On July 6, 2008 I told Swift by email to Lori Retorik that I was only looking for long term 2 year assignments, and I was assured by Lori and Kerri Walsh that was the case. I have been told by Pasha Eatedali that on 7/22/08, Kerri signed a contract with BP (Naseman) for a six month assignment for me, (she never told me about this other contract or its short duration). Then, one day later, Kerri Walsh got me to sign a 2 year assignment contract with Swift for this BP project. At that time, Kerri had full knowledge that she was committing fraud because there was no two year assignment. The assignment was only guaranteed for six months (see attached email k.abbott meeting)). When I interviewed with Bill Naseman before I signed the 2 year

contract, I was also told by him that this was a 2+ years assignment. During my employment, he also continued to tell me that he was going to make me permanent staff in January 09. Also, when I was advised by the bp computer system in January 2009 that my contract ended on 2/27/09, I asked Naseman what was going on, and sent him 2 emails requesting an explanation or a copy of any contract with that new date of 2/27/09 on it and he refused to let me see it. He let me see all the other of my staff's contracts so why not mine? It was because he knew he was committing fraud and did not want to get caught at it...

On 2/3/09, I was terminated, and BP said my contract was up on 2/27/09 and I was a reduction in force due to job slowdown. This is not true. I was wrongfully discharged as a retaliation by BP for my trying to protect a female employee of mine who was being discriminated against and harassed by Alan Clark, another BP employee (see abbott Chronology above for details) and also because I had blown the whistle on fraudulent, incomplete engineering activities by BP (see email - more info for your investigation above for details).

Unknown

From: Kenneth Abbott [kwabbott@comcast.net]
Sent: Thursday, March 05, 2009 11:41 PM
To: clynch@swift-houston.com; pasha.eatedali@ombudsmanecp.com
Subject: FW: K Abbott meeting with Chris Lynch - additional info
Attachments: ATT00031.eml (173 KB); Job Opportunity (22.0 KB)

Chris/Pasha – Please note the attached email from me to Lori Rektorik with Swift dated 7/6/08. Not only did I verbally tell Swift and BP that I wanted only a two years or longer position, I also put it in writing in this email before I was hired.

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Thursday, March 05, 2009 11:00 PM
To: 'pasha.eatedali@ombudsmanecp.com'
Subject: FW: K Abbott meeting with Chris Lynch

FYI Pasha...please note that I signed my contract with swift on 7/23/08, evidently the day after swift and bp signed their 6 month contract for me mentioned below. It is very apparent that both Swift's Kerri Walsh and Naseman of BP knew they were committing fraud to induce me in. I told both of them that I wanted a long term 2 year assignment before I signed and they both agreed this was two years or longer. Also, when I was advised by the bp computer system in January 2009 that my contract ended on 2/27/09, I asked Naseman what was going on, and for a copy of any contract with that new date of 2/27/09 on it and he refused to let me see it. He let me see all the other of my staff's contracts so why not mine? It was because he knew he was committing fraud and did not want to get caught at it...

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Thursday, March 05, 2009 2:08 PM
To: 'clynch@swift-houston.com'; 'Paul.Egner@bp.com'
Cc: 'kowrey@swift-houston.com'
Subject: FW: K Abbott meeting with Chris Lynch

Chris/Paul – I do not agree with your letter re my termination. My termination was a breach of the terms of my contract with you and I need to be paid for the remaining 18 months of my contract. Please advise when that will be done. Chris - Also, please advise when you will complete your investigation of my complaints of retaliatory discharge.

New information from Pasha Eatedali with the BP ombuds office confirms that both Swift and BP were fraudulent in my hiring and colluded to deceive me regarding the duration of my contract. Here are the details:

- I just talked with Pasha – BP ombudsman – and he informed me of the following: BP/Swift (Kerri Walsh) both signed a "contract services procurement requisition" dated 7/21/08 and a "release against the master agreement" dated 7/22/08 which spell out a 6 month contract term for me from 8/18/2008 to 2/27/2009. This is in direct conflict with the contract I signed with you for a 2 year term from 8/18/2008 to 8/18/2010. I was never made aware of this "other", shorter term contract with BP and Swift, and I think this shows collusion between both of you to commit fraud, to enduce me to sign with you for what appeared to be a long term contract, and is certainly a breach of my contract. Pasha stated that the fault for this lies with Swift, but I think you both are equally to blame. Also, can you please send me copies of these two agreements you signed with BP?
- As I have stated previously, the reason for my termination was not due to a slowdown of the Atlantis project and reduction in force, but was instead retaliation. As the ombudsman for BP stated in my chronology of events I sent you earlier (see yellow text, he was not buying the reduction in force reason either),

January 15, 2009

1. Swift Oil and Gas posts an employment opportunity for the position of "Project Services Lead" for a "MAJOR operator" that calls for a contract person to work on a "long-term Gulf of Mexico project." Kerri Walsh of Swift tells Ken Abbott that the position was for the BP GOM Atlantis, and that Bill Naseman has interviewed two candidates for the position. This is obviously an ad for Abbott's replacement and a contract position. Also, Naseman told Abbott and Eddie Antoine and Sim Powell (all managers in Naseman's group) in a meeting on 1/12/09 that he was also seeking to hire a senior cost engineer contractor for the topsides group for the Phase 2 Atlantis work. Why was Abbott not allowed to move into this position or even be considered for it?
    1. *Raises questions as to whether BP planned on hiring another contract employee to replace Mr. Abbott – shortly after Mr. Naseman had confronted Mr. Abbott about the incident with Mr. Clark. This job posting is in direct contrast to the information BP provided the OoO regarding the Project Services Lead position.*

From: Christopher Lynch [mailto:clynch@swift-houston.com]
Sent: Tuesday, February 24, 2009 3:03 PM
To: 'Kenneth Abbott'
Cc: kowrey@swift-houston.com
Subject: RE: K Abbott meeting with Chris Lynch

Ken, it was good meeting up with you. I will follow up with Parsha at BP. In the meantime here's the letter I discussed with you to confirm your Termination of Contract for Services.

Kind regards

Chris

Christopher Lynch | Area Director - USA

Direct +1 713 328 4566 | Main +1 713 328 4560 | Fax +1 713 328 4561 | Cell +1 832 755 9741

swift
oil and gas

This message is intended only for the stated addressee(s) and may be confidential. Access to this email by anyone else is unauthorised. Any opinions expressed in this email do not necessarily reflect the opinions of Swift Technical Group Holdings Limited, its subsidiary or associated companies.

www.swiftoilandgas.com

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Monday, February 23, 2009 2:07 PM
To: clynch@swift-houston.com
Cc: kowrey@swift-houston.com
Subject: K Abbott meeting with Chris Lynch

Chris/Kelly – tomorrow would be a good time for me to meet with Chris – say around 10AM – is that okay. Can you confirm and send me directions please...

From: Kelly Owrey [mailto:kowrey@swift-houston.com]
Sent: Monday, February 23, 2009 12:30 PM
To: 'Kenneth Abbott'
Cc: 'Christopher Lynch'
Subject: RE: Your investigation/Corrective Measures re my complaints of retaliatory discharge and breach of contract by BP
Importance: High

Hi Ken,

I just wanted to let you know I have sent this on to our Area Director, Chris Lynch (copied) to handle.

Chris would like to set up a meeting with you to discuss this further so please let him know when you are available.

Kind regards,

Kelly Owrey

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Saturday, February 14, 2009 12:34 AM
To: kowrey@swift-houston.com
Subject: FW: Your investigation/Corrective Measures re my complaints of retaliatory discharge and breach of contract by BP

Kelly – please note that ('pasha.eatedali@ombudsmanecp.com') is the ombudsman investigating my complaints for BP and has the same information I have sent you.

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Saturday, February 14, 2009 12:20 AM
To: 'kowrey@swift-houston.com'
Subject: FW: Your investigation/Corrective Measures re my complaints of retaliatory discharge and breach of contract by BP

Kelly – I am resending this because the previous email had some format errors...

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Saturday, February 14, 2009 12:13 AM
To: 'kowrey@swift-houston.com'
Subject: Your investigation/Corrective Measures re my complaints of retaliatory discharge and breach of contract by BP

Kelly - do you have any feedback for me yet regarding my complaint to you and Kerri Walsh regarding the retaliatory discharge and breach of contract by BP? FYI, I have also attached the detailed description of my charges given to BP and to Kerri (with some update information). Note the comments in yellow highlight - they are by the BP Ombudsman. Also, attached below is the EEOC guidance on the needed response by a staffing firm (same as required by the client) when discrimination/retaliation claims are made to them. I would like to make sure these actions are being taken on my behalf by Swift.

EEOC Guidance on Staffing Firms responsibility to respond to a complaint of discrimination/retaliation by one of

Staffing Firm: The firm is liable if it participates in the client's discrimination. For example, if the firm honors its client's request to remove a worker from a job assignment for a discriminatory reason and replace him or her with an individual outside the worker's protected class, the firm is liable for the discriminatory discharge. The firm also is liable if it knew or should have known about the client's discrimination and failed to undertake prompt corrective measures within its control.33

The adequacy of corrective measures taken by a staffing firm depends on the particular facts. Corrective measures may include, but are not limited to: 1) ensuring that the client is aware of the alleged misconduct; 2) asserting the firm's commitment to protect its workers from unlawful harassment and other forms of prohibited discrimination; 3) insisting that prompt investigative and corrective measures be undertaken; and 4) affording the worker an opportunity, if (s)he so desires, to take a different job assignment at the same rate of pay. The staffing firm should not assign other workers

to that work site unless the client has undertaken the necessary corrective and preventive measures to ensure that the discrimination will not recur. Otherwise, the staffing firm will be liable along with the client if a worker later assigned to that client is subjected to similar misconduct.34

From: Kelly Owrey [mailto:kowrey@swift-houston.com]
Sent: Tuesday, February 10, 2009 10:15 AM
To: 'Kenneth Abbott'; Paul.Egner@bp.com
Subject: RE: Ken Abbott's Employment contract

All,

We will look into this and revert back to you both as soon as possible.

Thanks,

Kelly Owrey

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Tuesday, February 10, 2009 9:21 AM
To: Paul.Egner@bp.com
Cc: 'Kelly Owrey'
Subject: Ken Abbott's Employment contract

Paul – This is to advise that I was discharged today. Since you are the Sourcing contract administrator for BP Atlantis, I am writing to inform you of a breach of my employment contract by BP. Because the contract was breached by Bill Naseman of BP, and as per the Texas payday law, I am requesting full payment of the approximately 18 months remaining on my 2 year contract within six days of my last day on the payroll (2/10/09). The specifics of the breach are detailed below. I have also attached my signed contract for your review.

Kelly – By copy of this email, I am also requesting that you enforce this contract and act to resolve this breach as the contracts administrator for Swift.

- I originally signed a two year contract with BP. During the week of 1/6/09, I discovered that the material terms of that contract had been illegally changed by Bill Naseman. He reduced the term of the contract to six months with a new completion date of 2/27/09, without my agreement or signature to the contract. During the week of 1/6/09, I received an email from the BP computer system admin, advising me that my contract end date was now 2/27/09 and I would need to get authorization to renew the end date or my access to the system would be denied on that date. I emailed and called Bill Naseman to find out what was going on during that week and got no answer. On 2/4/09, as per the BP ombudsman Billie Garde, in a meeting with Naseman and Simon Todd to discuss my retaliatory discharge, Simon Todd told the ombudsman that my contract end date was 2/27/09 instead of the original 8/18/2010.
- Since my termination was a retaliatory discharge by Naseman, (and there is substantial evidence that it was retaliation) the contract has also been violated and BP is in breach, because the contract calls for no retaliatory behavior, and because the dismissal violated US employment laws. Naseman terminated me in retaliation for my trying to resolve Becky Cavalier's complaint to me of harassment and discrimination by Alan Clark.

Unknown

From: ricoh_copier@swift-houston.com
Sent: Wednesday, February 25, 2009 1:59 AM
To: Chris
Attachments: 20090225025912548.pdf

This E-mail was sent from "RNPDDDBDE" (Aficio MP C4500).

Scan Date: 02.25.2009 02:59:12 (-0500)
Queries to: ricoh_copier@swift-houston.com

swift oil and gas

Swift Technical Services, LLC
3050 Post Oak Blvd., Suite 1450
Houston, Texas 77056
t: +1 713 328 4560
f: +1 713 328 4561
e: info@swift-houston.com
www.swiftoilandgas.com

February 24, 2009

Kenneth Abbott
9726 Refugio Court
Houston, Texas 77064

Dear Mr. Abbott

Re: Termination of Contract for Services

Swift received information from you regarding your Termination of Contract for Services (the "Contract"). I wish to confirm the events which led to the termination of your Contract.

Swift terminated your Contract for Services with BP America Production Company due to the slowdown on the BP Atlantis project, Phase 2, to which you were assigned. As a result of the downturn in the oil and gas market, BP re-structured the project team and consolidated the two Project Services Lead positions into one position.

Furthermore, Section 6.1 of the Contract for Services executed by you and Swift provides that Swift "may, at any time, with or without cause, terminate this contract, by giving five (5) days written notice to Contractor specifying the date of termination." Accordingly, Swift provided you with proper notice to terminate your Contract for Services.

Yours sincerely,

Chris Lynch
Area Director - USA

Unknown

From: Kenneth Abbott [kwabbott@comcast.net]
Sent: Sunday, July 06, 2008 6:16 PM
To: 'Lori Rektorik'
Subject: RE: Job Opportunity

Lori I am primarily looking for permanent positions in Houston only but will consider contract in Houston depending on the rate and duration(2 years)...

From: Lori Rektorik [mailto:lrektorik@swift-houston.com]
Sent: Sunday, July 06, 2008 6:28 PM
To: kwabbott@comcast.net
Subject: Job Opportunity

Kenneth,

Thank you for your interest in the Scheduler position I am currently recruiting for. I think your experience looks great and I would love to get your information over to our clients ASAP. We actually have several opportunities available in Planning/Scheduling and Cost, so we might be able to get your information over for several different opportunities.

I have listed a few of the opportunities below for your review:

Position 1:

Location:	Houston, TX and then possibly Pascagoula, MS
Client:	Chevron
Project:	Pascagoula Refinery Expansion Project
Position:	**Planner/Scheduler**
Rate:	To be proposed by candidate – day rate
Rotation:	9/80
Duration:	Long term (2-4 years)
Start Date:	Immediately

Chevron is looking for someone with extensive experience in planning/scheduling, who has taken on leadership roles, particularly over several projects at one time. The Lead Scheduler will plan and schedule major refinery projects and interface with other projects in the Pascagoula, MS refinery. Extensive Primavera experience is a must (P5 or P6 preferred), and a strong construction background is preferred. This position will start in the Houston area and then possibly move to Pascagoula, MS.

Position 2:

Location:	Angola
Client:	Chevron
Project:	Angola LNG
Position:	**Senior Planner/Scheduler**
Rate:	To be proposed by candidate (considering 15% Angolan tax)
Rotation:	28:28 rotation
Duration:	Long term (3-4 years)
Start Date:	ASAP

Duties include:
-Manage planning and scheduling systems for large complex projects
-Design and implement progress and schedule control system for project
-Develop reporting methods and generate reports on regular basis
-Supervise assigned project controls personnel

Position 3:

Location:	Houston, TX
Client:	BP
Project:	Thunderhorse

Position:	**Senior Planner/Scheduler**
Rate:	To be proposed by candidate
Rotation:	9/80
Duration:	Long term (1-1.5 years)
Start Date:	ASAP

We don't have a job description for this role yet, however they let us know they are looking for a Project Controls guy with extensive experience in Planning/Scheduling. They are looking for someone with Shutdown experience as well.

Position 4:

Location:	Prudhoe Bay, Alaska
Client:	BP
Project:	Greater Prudhoe Bay SPU
Position:	**Sr Integrated Facility Scheduler**
Rate:	To be proposed by candidate – day rate for every day worked
Rotation:	1 week:1 week or 2 weeks:2 weeks
Duration:	Long term (1+ years)
Start Date:	ASAP

I have attached the provided job description for your review.

Please send me an updated copy of your resume at your earliest convenience. Please also advise on your availability and a desired day rate. I look forward to your reply.

Kind regards,

Lori Rektorik
Recruitment Consultant
Swift Technical Services LLC
Main: +1 713 328 4560
Direct: +1 713 579 0309
Cell: +1 832 495 1705
Fax: +1 713 328 4561
www.swiftoilandgas.com

This message is intended only for the stated addressee(s) and may be confidential. Access to this email by anyone else is unauthorised. Any opinions expressed in this email do not necessarily reflect the opinions of Swift Technical Group Limited, its subsidiary or associated companies.
Any unauthorised disclosure, use or dissemination, either whole or in part is prohibited. If you are not the intended recipient of this message, please notify the sender immediately.

2009-005 (Abbott and Atlantis) Chronology and Abbott's Retaliatory Discharge and BP Breach of Contract Complaint

- **July 21, 2008**
  - Kenneth Abbott has his services contracted by Swift Technical (contractor) to BP America with a start date of August 18, 2008 and an ending date of 2010
  - Position is Subsea Projects Services Leader
  - Letter and signed contract sent by Kerri Walsh who is Business Development Manager for Swift Technical
  - Abbott leaves GE full time employee payroll and joins BP for a two year contract and a promise of temp to perm placement within BP in 6 months by Bill Naseman. In October 2008 Naseman confirms to Abbott that he will be made a permanent BP employee by January 2009. Naseman violated truth in hiring laws by promising long term employment and temp to perm and enducing Abbott to leave his old job and then dismissing him after only 51/2 months for retaliatory reasons.

- **December 23, 2008**
  - *9:00 AM* - Mr. Abbott alleges that one of his employees (Becky Cavalier a Cost Analyst from a Turner & Townsend) approaches him about being harassed and discriminated against by Alan Clark (Cost Engineer from Clover)
  - *10:00 AM* – Mr. Abbott approaches Mr. Clark regarding the concerns raised to him. He alerts Mr. Clark that he needs to improve his communications with Ms. Cavalier. Mr. Clark requested that Ms. Cavalier be terminated because she was "no good." (he also called her a SILLY OLD SOW, and Mr. Abbott reminded him that was discrimination. Mr. Abbott replied that he had only heard good things about her and that firing her would not be the solution, which resulted in Mr. Clark becoming angry…Mr. Abbott reminded him that everyone had to "work together in order to get the job done." Clark then told Abbott to fuck off and leave his office, which was insubordinate.
  - *10:30 AM* – Mr. Abbott is approached by Mr. Clark asking him to sign his timesheet. After which Mr. Clark left his office announcing that Mr. Abbott had just fired him. Mr. Abbott expressed that at no point did he tell Mr. Clark that he was terminated.
  - *11:00 AM* – Mr. Clark dropped his key off to the admin for Atlantis (Necie Kelley) and alerted her that he was leaving. Mr. Abbott left Mr. Clark a cell phone message asking him to call him to resolve the issues. Later that day, Abbott phones Naseman at home (he is on 2 week Xmas break) to brief him on the departure of Clark, and Naseman tells Abbott that Alan has done this same kind of hostile departure on two other BP jobs previously, and the last job before this one he left without any notice after an argument with his supervisor and then tried to come back three days later, and the supervisor

refused. My question is why did BP leave this guy in place knowing he is a ticking time bomb? Mike Price, PE on Atlantis and Doug McGregor, cost engineer on Atlantis, also independently confirmed to Abbott the hostile behavior of Alan to other employees, and Mike Mills, his ex supervisor for Turner and Townsend also said he had Turner scared of him and was always blowing up over nothing.

- **Sometime after Mr. Clark left (Between Dec. 23 – Jan. 12, 2009)**
  - Mr. Abbott believes that shortly after Mr. Clark left the company he wrote an email to John Schwebel (Project Director – BP) and from what he has heard secondhand, the email is very critical of Mr. Abbott → and blaming Mr. Abbott for the events that transpired, and also accusing Becky Cavalier of causing his firing, and that she was the problem, not him. The email was apparently then distributed amongst project management and engineering leads on Atlantis, including Benny Kirkham and Mr. Naseman. Mr. Abbott has been told by Naseman that he will not give him a copy of the email to review and respond to. Schwebel told Abbott that Alan did a good job and that Becky Cavalier and all others in the cost group were incompetent. Benny made discriminatory statements against Becky Cavalier and said not to hitch my wagon to her. Other Atlantis team cost engineers supported Becky. Doug McGregor said that Alan had been continually harassing and humiliating her for the past few months.
  - During the week of 1/6/09, Ken Abbott received an email BP system alert that his system access was going to expire soon, and that he needed to get it reauthorized by his supervisor, and that his contract expire date was 2/27/09. Abbott sent an email to Naseman requesting the reauthorization and asking why the system showed his contract ending in 6 months instead of 24, and he received no reply. Finally, Abbott called Naseman re the email, and Naseman said they would discuss it at the 1/12/09 meeting (Naseman said he was not ready to discuss it yet after the 1/12/09 meeting). This is very good evidence the contract expire date was moved up by Naseman, based on his decision to terminate Abbott in retaliation for his trying to protect the rights of Becky Cavalier to not be harassed and discriminated against.

- **January 12, 2009**
  - Mr. Abbott alleges that Bill Naseman (BP Project Services Mgr for Atlantis) calls him into his office and blames Mr. Abbott for all of the events that had transpired with Mr. Clark. Mr. Naseman alerted Mr. Abbott that he did not follow the BP manager guidelines and that they would start having monthly meetings to work on his management skills and that Mr. Abbott should have spoken to Mr. Naseman before confronting Mr. Clark, and that only Naseman should discuss this with Clark, although Abbott had never been told these Naseman rules previously, and although BP put him in a supervisory role over five people. Abbott has previously had nothing but good reports on his performance from his project director Bill Broman and Naseman. Abbott had been also told by Naseman in October 2008 that his contract position would

go to permanent BP staff status in early 2009, and when Abbott was hired in August 2008, Naseman told him that the position was a temp to perm position.

- **January 15, 2009**
  - Swift Oil and Gas posts an employment opportunity for the position of "Project Services Lead" for a "MAJOR operator" that calls for a contract person to work on a "long-term Gulf of Mexico project." Kerri Walsh of Swift tells Ken Abbott that the position was for the BP GOM Atlantis, and that Bill Naseman has interviewed two candidates for the position. This is obviously an ad for Abbott's replacement and a contract position. Also, Naseman told Abbott and Eddie Antoine and Sim Powell (all managers in Naseman's group) in a meeting on 1/12/09 that he was also seeking to hire a senior cost engineer contractor for the topsides group for the Phase 2 Atlantis work. Why was Abbott not allowed to move into this position or even be considered for it?
    - *Raises questions as to whether BP planned on hiring another contract employee to replace Mr. Abbott – shortly after Mr. Naseman had confronted Mr. Abbott about the incident with Mr. Clark. This job posting is in direct contrast to the information BP provided the OoO regarding the Project Services Lead position.*

- **January 29-30, 2009**

  BP asserts that Bill Naseman, Bill Broman (Atlantis Subsea Delivery Manager), Dirk Smit (Atlantis Phase 2 Delivery Manager), and Simon Todd (VP Atlantis) discussed whether the company could reduce costs by combining two Project Services Lead into one BP PSL position held by Simm Powell (who had just replaced the other Project Services Lead – Mike Mills (contractor). From the evidence in the paragraphs above and below, it is clear that Bill Naseman's decision to terminate Abbott was not because of a reduction in staff due to lack of work as he contends. He terminated Abbott to retaliate against him, and Naseman made his decision to do so sometime during the first two weeks of January 2009.

- **January 30, 2009**
  - BP asserts that Bill Naseman, Project Services Manager for Atlantis decides that Ken Abbott's position should be eliminated.

- **February 3, 2009**
  - Mr. Abbott is told that his contract is being terminated early, and that his final day would be February 9th.
  - 4:00 PM EST – Mr. Abbott brings his concern regarding his retaliatory discharge to OoO
  - 4:30-4:50 PM EST – Mr. Abbott asserted he was to have a meeting with BP HR, his contractor manager, and Naseman to discuss his termination. Instead he was approached by Bill Naseman and Greg Farnham (BP Atlantis HR) and was told that it was best that he pack his things and leave the premises, rather than waiting till Friday because of all the allegations he had raised, and all that

had transpired that day. Bill Naseman stated when he came to Abbott's office with Farnham that he was let go for lack of work (as did Kerri Walsh in her call to Abbott telling me about the dismissal earlier that day). The evidence shows this was false. On 1/29/08 at Naseman's biweekly staff meeting, he reviewed slides from Simon Todd's leadership team that showed BP GOM planned to hire 200 new staff during 2009 and there were no layoffs planned in the GOM production group. Eddie Antoine, John Vernor, and Mike Mills all heard this "no layoffs" pledge and we were encouraged to spread the word among our staff to reassure everyone. In fact, during the last two weeks of 12/08, the VP of GOM held a town hall for the entire GOM production team and said that we were hiring for 2009, and no layoffs were planned.

- I must tell you how much this illegal termination has bothered me, because not only was there a false reason for dismissal, but more importantly, it was hard to have a personal attack on my management and professional skills as a result of standing up for an employee who was being harassed. As soon as Bill Naseman returned from his Christmas holiday on app.1/6/09, he started this retaliation against Ken Abbott.

- **Abbott's Concluding Remarks:**

Ken Abbott has been harassed and retaliated against by being terminated because he did the right thing for BP as a supervisor and stood up for a female employee who had accused Alan Clark of harassment. His effort to resolve the issue probably helped BP avoid a discrimination/harassment lawsuit by Becky Cavalier. No one has even bothered to interview Becky Cavalier (except Ken Abbott). Instead of interviewing Becky and the entire team and conducting a proper investigation, Naseman chose to falsely blame Ken Abbott based on the input of two employees (John Schwebel and Benny Kirkham) who wanted to cover up for Alan, and being angry he left, wanted to falsely blame and punish Ken Abbott and Becky Cavalier. Abbott also believes that Bill Naseman was negligent in not telling Abbott about Clark's severe communication problems, and in bringing Clark into the group, to be inherited by Mr. Abbott, when Alan's hot tempered and insubordinate history at BP was well known and documented. The passing around of defamatory email from Alan Clark by BP employees Schwebel and Naseman and contractor Benny Kirkham on the Atlantis Project without any chance for Abbott to see it or to defend his reputation was also inexcusable and damaged his reputation tremendously.

Not only is Naseman guilty of retaliation against Abbott, but Alan Clark is also guilty of retaliation against both Becky Cavalier and Abbott, since Clark was still a BP contract employee when he sent the retaliatory email mentioned in the paragraph above to John Schwebel (Schwebel was not his supervisor). BP did not terminate him until 12/30/08 after waiting a week after his departure on 12/23/08, to give him time to reconsider his departure from the company.

There is also the matter of Naseman's illegally changing the terms of Abbott's employment contract by moving the end date from August 18, 2010 back to February 27, 2009 without getting Abbott's consent. This is breach of contract and could result in civil/criminal penalties to BP and full payment to Abbott of the two year contract term. There is substantial evidence of the fraud by Naseman. The BP computer system notice emails to Abbott and emails to Naseman from Abbott show the contract end date was revised to 2/27/09. Also, as reported to Abbott by the Ombudsman, on Wednesday 2/4/09, the VP of Atlantis project Simon Todd and Naseman and the ombudsman met to discuss Abbott's termination and Simon Todd stated that Abbott's contract end date was 2/27/09.

I think BP is overall a good place to work, and I would like to see this illegal termination and breach of contract resolved within the company, and my employment reinstated somewhere within BP. If that cannot be achieved, then full payment of my remaining contract term would be fair.

Unknown

From: Kenneth Abbott [kwabbott@comcast.net]
Sent: Wednesday, March 04, 2009 10:47 AM
To: 'Pasha.eatedali@ombudsmanecp.com'
Subject: More information for your investigation
Attachments: FW: Atlantis Document Numbering Procedure and Drawing Reviews/Approval by the leads; Atlantis Document Control Proposal - Path Forward (688 KB)

Pasha – I have attached below a further complaint against BP for your investigation:

As I have previously stated, I believe that Bill Naseman has retaliated against me with my wrongful termination primarily because I stood up for a female employee who was being discriminated against and harassed by Alan Clark. I also believe that a secondary reason for my termination was retaliation because of my blowing the whistle during November 08 through January 09 regarding unsafe practices in offshore production unit drawing correctness and completion in violation of US Code, Title 43, chapters 29 and 36, public policy, and BP procedures on the Atlantis project.

Specifically, during November 08, I advised Bill Naseman and the project manager Bill Broman, as well as the project team, both verbally and then by email (see attached email – Atlantis document control proposal) that I and Tinika Curtis (Document Controller) had observed a failure by certain project lead engineers (John Schwebel, Benny Kirkham, and John Hughes) to ensure the proper coding of drawings they approved, (i.e. which sector did the particular equipment item belong to) and the failure to issue "as built drawings" to operations for the DC1 offshore production unit that had been complete and producing for a year. As shown in the email, the attachments show a record of the drawing status, and you can see in the revision status row, that many drawings are not issued as revision 0), or As Built, and most do not have "as built" stamped on them as required by GOM drawing procedures. It is critical that offshore operators have a complete set of as-built drawings when they start up a unit for their correct and safe assessment of operating problems on this unit. Yet even though the DC1 offshore wells had been operating since December 07, the operations group still did not have as-built drawings as of December 08. Tinika and I discussed this problem at length with the leads and project management and Bill Naseman. We prepared a plan to remedy this situation but it met much resistance and complaints from the above lead engineers on the project.

In particular, in Bill Broman's staff meeting on December 2, 2008 , John Hughes, Benny Kirkham, and John Schwebel questioned why the leads needed to check the drawings for correctness when they signed them off, and why did they need to push for final as-built drawings. They were very argumentative with me about this, and they also asked what procedure said they had to do these things. I responded that it was BP procedure as outlined in our Project Execution plan to do so and every oil company required their lead engineers to review drawings for accuracy and to obtain as-built final drawings from all vendors for operations before startup (see attached email - approval by the leads, which I sent them after the meeting on 12/17/08 with the procedure attached, which had been previously issued to them at the beginning of the project). Section 6.2 of the Atlantis Project Execution Plan states the following:

As-Built Documentation
The Lead Engineer for each discipline area will ensure that all technical documentation is updated to reflect the as-built condition of the equipment prior to deployment to the field.

I also told them that when the DC1 unit started production one year ago, that final "as built" drawings should have been turned over to offshore operations, and they had not been, and that

must be remedied as soon as possible.

The leads have been very unhappy with the need to get these drawings correct and issued as built to operations, and they have complained to Naseman and Bill Broman, the PM. In a staff meeting with Bill Naseman during December 08, I tried to discuss the subject of these leads refusing to properly review drawings and assure they were correct and final issued, and Bill Naseman did not want to discuss it or do anything to resolve it, he was too worried about keeping the good old boys happy. Several other staff members heard my comments, including Eddie Antoine, John Vernor, and Frank Schoffield.

When Bill Naseman met with me on 1/12/09 to blame me for Alan Clark's departure, he also said he had been told by the leads that I was too aggressive in getting the engineers to correct their drawings and get them finalized as built and to operations. I responded that I did not think it was too aggressive to try and get final as-built correct drawings issued to operations after the unit had been in operation for over a year (since December 07). I believe that Naseman was more concerned in covering up for the good old boys (the BP leads) and keeping them happy, than he was in doing the right thing for BP. Ron Berger is the operations manager on the Atlantis project and he is aware of this problem (since he has not received any DC1 as-built drawings) and Tinika and I met with him in early January 09 to discuss the problem with him and advise our plan to resolve this unsafe situation.

To my knowledge, operations still does not have as-built final correct drawings for DC1, nor has there been any progress on the North Flank as-built drawings, which is scheduled to start up in mid-year 2009. I have also advised Naseman and the project leads/manager that we need a drawing schedule for these as-built drawings from the vendors but these leads (Hughes, Schwebel, Kirkham) refuse to ask the vendors for any drawing schedules, so how can they know when or if these as-built drawings will be done. BP project execution policy also calls for a drawing tracking schedule on all projects, and that is being ignored by the Atlantis engineering team, and we have received no support from Naseman to make it happen.

In conclusion, I believe that BP is in violation of US Code Title 43, Chapter 29, regarding their lease production and operations schedule which called for completion of all drawings as built when the DC1 unit started up in December 2007. First, BP should report this failure to perform per their lease requirements to the Department of the Interior, Minerals Management Group. Second, they should work to immediately resolve the incomplete drawings problem to ensure the safety of their offshore operation. Third, they should reinstate my job, since I was retaliatory discharged in violation of Title 42, chapter36, subchapter 3 of the US code.

Unknown

From: Kenneth Abbott [kwabbott@comcast.net]
Sent: Friday, February 27, 2009 3:57 AM
To: kwabbott@comcast.net
Subject: FW: Atlantis Document Numbering Procedure and Drawing Reviews/Approval by the leads

---

From: Abbott, Ken (SWIFT TECHNICAL SERVICES)
Sent: Wednesday, December 17, 2008 9:54 AM
To: Mack, John G; Malone, Ryan P; Jondle, John J; Whitehead, David K (Technip); Schwebel, John; Mack, John G; Hughes, John D; Weber, Rick G; Price, Mike (Clover); Broussard, Danielle M; Kirkham, Benny (BAMA); Broman, William H(HOU)
Cc: Curtis, Tinikka (NES)
Subject: FW: Atlantis Document Numbering Procedure and Drawing Reviews/Approval by the leads

Team - In a previous staff meeting, John Hughes had some questions re our project document approval process and numbering process. I have attached the previously issued procedures that show the process involved for your information and use. If you have any questions, please advise..

From: Abbott, Ken (SWIFT TECHNICAL SERVICES)

Sent: Tuesday, December 02, 2008 2:56 PM

To: Broman, William H(HOU); Curtis, Tinikka (NES)

Cc: Curtis, Tinikka (NES)

Subject: FW: Document Numbering Procedure and Drawing Reviews/Approval by the leads

Bill - as per your request in the staff meeting this morning, attached are the following two documents.

The first is the GOM standard procedure for numbering drawings.

The second is our Atlantis Project Execution Plan, and section 6.2 through 6.4 details the processes for the leads to review and approve drawings, and how they should be numbered.

<<...>>

<<...>>

Tinikka Curtis

Atlantis Subsea Project Team

Document Control

Tinikka.Curtis@bp.com

281-249-8978

Unknown

From: Kenneth Abbott [kwabbott@comcast.net]
Sent: Tuesday, March 03, 2009 3:56 PM
To: kwabbott@comcast.net
Subject: FW: Atlantis Document Control Proposal - Path Forward
Attachments: Sector 31 - Wellheads - J.Hughes.xls; Sector 32 - Trees - R. Weber.ZIP; Sector 33 - Manifolds - J. Schwebel.ZIP; Sector 34 - Pipelines - J.Mack.ZIP; Sector 35 - Controls- D. Whitehead.ZIP; Sector 36 - Umbilical - B. Kirkham.ZIP; Sector 37 - Risers - J. Mack .ZIP; Sector 70 - Installation- J. Hughes.ZIP

From: Abbott, Ken (SWIFT TECHNICAL SERVICES)
Sent: Wednesday, November 19, 2008 3:15 PM
To: Broman, William H(HOU); Garland, Mike L; Curtis, Tinikka (NES); Naseman, Bill E
Subject: Atlantis Document Control Proposal - Path Forward

Bill - we made some revisions to the proposed process for correcting documentum. Please review and transmit to the leads for implementation as per our discussion...

From: Abbott, Ken (SWIFT TECHNICAL SERVICES)

Sent: Tuesday, November 18, 2008 5:16 PM

To: Broman, William H(HOU)

Cc: Curtis, Tinikka (NES); Garland, Mike L

Subject: FW: Rough Draft -Document Control Proposal

Bill - here is our go-forward Documentum QA plan as discussed at our meeting with Bill Naseman and Westlake Document control. Please review it and issue it to the leads as our plan to complete the needed quality control check on drawings issued and to ensure that we can identify and provide as built drawings as needed from documentum for each drill center.

From: Curtis, Tinikka (NES)

Sent: Tuesday, November 18, 2008 4:12 PM

To: Abbott, Ken (SWIFT TECHNICAL SERVICES)

Subject: FW: Rough Draft -Document Control Proposal

Attention Atlantis Leads: We are in the process of close-out for the DC-1 original scope project costs and the issue of all final documentum drawings to the operations group for these working assets. It is critical for these drawings that we QC them, get final as-built drawings by drill center, and transmit to operations quickly.

As we all know, there have been issues with non-compliance with project drawing numbering and tracking procedures, and the status of drawings by drill center is also not complete. We intend to remedy these problems and bring the DC-1 drawings to a proper close-out by the end of January 09, and issue as-built drawings to operations at the same time. To do so, we need your help. At the same time, it is our intent to get the DC3, Water Injection, and SS2 documentum tracking and document issue back in sync with current drawing control procedures.

We have reviewed the below plan will Bill Broman and the Westlake Document Control team, and we have their support. **This effort will require a dedicated resource from each of your teams to review and correct the spreadsheets (Tinikka has attached the spreadsheet below by lead and sector) showing the documents under your control (correcting the drill center #, rev #, rev status, etc.) during the next few weeks (scheduled completion date is 01/09/09).** Once we have the drawing data correct in Documentum, we plan to then issue documentum drawing schedules with required as-built drawing need dates for closeout for all documents for monthly status updating by the schedulers and leads.

Schedule for Documentum updates/corrections

11/24/08 - Tinikka Distributes Drawing Index to Leads, and begins meeting with Leads to explain input required as well as to help work sample corrections

01/09/09 - Leads Complete mark-up of Document Index with corrections and drill center # as required

02/06/09 - All corrections and drill center # attributes loaded into Documentum

02/13/08 - Summary drawing schedule to leads showing current drawing revision status and required issue date for all as-built drawings

02/27/09 - Final as-built drawings to Tinikka for all DC-1 drawings for issue to operations

Supporting Facts

Today most documents that come to BP document control comes from Technip document control in the subsea drop box in Documentum. Once the documents are QC, we find several issues with the documentation that need to be resolved before loading into Documentum.

Problem

Many of the documents in Documentum are incorrectly numbered, titled, and wrongly identified drill centers. This creates a problem for retrieval and the ability to handover accurate documentation to Operations.

Recommendation

BP Document Control will provide a spreadsheet for each lead with documents broken down by Sector.

A Document Status kick-off meeting will be scheduled with each of the Leads and/or Dedicated Representatives from each group for every document on the list to be reviewed and distinguish if

the following attributes are correct. If they are incorrect, the leads will need to mark them up on the spreadsheet with the correction for Tinikka to input into Documentum:

- Sector
- Discipline
- Document Type
    - Area – Drill Center
    - Revision
    - Rev Purpose Code - Status
    - Archival or Handover

Tinikka will work for a half-day with each lead to show them what drawing fields on the list must be updated and to go through examples with them. The leads will then need to complete the mark-up of their individual spreadsheets and return to Tinikka for input into Documentum by 01/09/09.

BP Document Control will begin to record the following attributes for more search capabilities.

- Originator/ Contractor Firm
- Transmittal number
- Contractor Document Number
- Status Code

Process

1. The Lead will receive the spreadsheet by **SECTOR.**

The first attributes to be reviewed are the Sector, Discipline, and Document Type. They need to be reviewed for accuracy and corrected. These attributes have a lot of impact on how documents are filed in Documentum.

- Sector
- Discipline
- Document Type.

2. The next attribute to be identified is the **AREA - (drill center).**

The drill center will determine the next steps to take with the document.

It has been argued that the phases do not matter, however because we work in phases it is to our advantage to label the document by phase if it's relevant to the document for easier identification at handover.

Subsea All

- Documents that is common to all Drill Centers

    - There should not be very many of these documents, and most documents

should still have a specific sector other than 30.

- Most of these documents will stay with the project until the end of the

job.

Drill Center 1 – South Flank

DC-1

- **Documents that illustrate what is currently installed and planned to stay unless other circumstances occur.**
- **These documents are a priority because most of these documents reflect what's currently installed and operating and need to be handover to Operations.**

DC-1 (SS-0)

- Documents that illustrate Original design / equipment that was removed.
- All of these documents will probably be archived.

DC-1 (SS1)

- **Documents that illustrate what is currently installed but planned to be removed by another phase.**
- **These documents are also a priority because most of these documents reflect what's currently installed and operating and need to be handover to Operations.**
- **Some of these documents will be added to a cross-reference spreadsheet to ensure that they are superseded by the next phase documents and correctly numbered during the next phase.**

DC-1 (SS2)

- Documents that illustrate what will replace equipment that is currently installed
- These documents are still in review/comment status so any errors made can be corrected.

Drill Center 3 – North Flank

DC-3

- Documents that are assigned to Atlantis North Flank (ANF)

Base Case.

- These documents are still in review/comment status so any errors

made can be corrected.

DC-3 (Phase I)

- Documents that is specific to ANF Phase I only.

- These documents are the next priority because some of these

documents reflect what is installed but not operating. These documents

is the second priority on the list to be handed over to Operations.

DC-3 (Phase II)

- Documents that are specific to ANF Phase II only.

- These documents are still in review/comment status so any errors

made can be corrected.

3. Now we can begin to check the **revision code** and **rev purpose code** *(status code)*.

4. In some cases the leads and/or Rep know if the documents are going to be **handover to Operations** or **archived deliverables.**

This step will allow us to prioritize correcting the handover documentation before the archival data.

<<...>> <<...>> <<...>> <<...>> <<...>> <<...>> <<...>> <<...>>

Pursuant to the Declaration of David L. Perry, Paragraph 7, the files attached to the preceding e-mail were not printed.

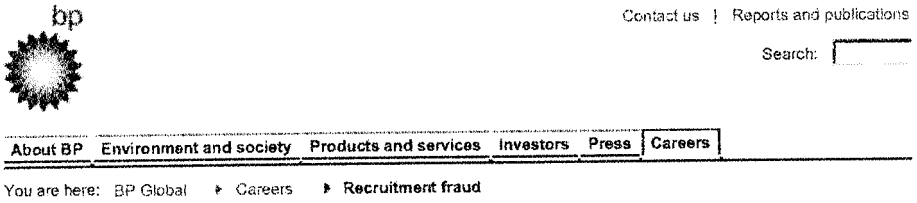
.xls Attachment Titles (some within ZIP files):

Sector 31 – Wellheads – J.Hughes
Sector 32 – Trees – R Weber
Sector 33 – Manifolds – J Schwebel
Sector 34 – Pipelines – J Mack
Sector 35 – Controls – D Whitehead
Sector 36 – Umbilical – B Kirkham
Sector 37 – Risers – J Mack
Sector 70 – Installation-J Hughes

E-mail 56 of 61

Unknown

From: Kenneth Abbott [kwabbott@comcast.net]
Sent: Wednesday, March 25, 2009 10:57 AM
To: kwabbott@comcast.net
Subject: bp31 - Emailing: Recruitment fraud BP web site



Recruitment fraud

Recruitment fraud

It has come to our attention that various individuals and organizations are contacting people offering false employment opportunities in BP. We are taking this matter extremely seriously, and we are currently working with the appropriate legal authorities to terminate this fraudulent scheme. By making you aware of this, we hope to avoid and ultimately stop victims falling for this scam.

What is Recruitment fraud?

Recruitment fraud is a sophisticated fraud offering fictitious job opportunities. This type of fraud is normally done through online services such as bogus websites, or through unsolicited e-mails claiming to be from BP. These emails request recipients to provide personal information and ultimately payments to progress false applications.

How to identify Recruitment fraud

- The perpetrators will often ask recipients to complete bogus recruitment documentation, such as application forms, terms and conditions of employment or visa forms. The BP name and logo is often featured on the documentation without authority
- There is an early request for personal information such as address details, date of birth, CV, passport details, bank details etc.
- Candidates are requested to contact other companies/individuals such as lawyers, bank officials, travel agencies, courier companies, visa/immigration processing agencies etc.
- E-mail correspondence is often sent from (or to) free web-based e-mail accounts such as Yahoo.com, Yahoo.co.uk, Gmail.com, Googlemail.com, Live.com etc.
- The perpetrators frequently use mobile or platform telephone numbers beginning with +44(0)70 instead of official company numbers.
- The perpetrators may even offer to pay a large percentage of the fees requested and ask the candidate to pay the remaining amount.
- There is an insistence on urgency

What should I do?

Do

- Contact us at bprecruiting@bp.com and MAKE SURE THAT YOU INCLUDE THE THREE ITEMS BELOW. If your email is missing any one of these three items, it will take us longer to investigate and identify the perpetrators.
  1. **Original subject line:** Please do not change the original subject line of the email you received
  2. Complete headers: Email headers contain a detailed record of the specific route that an email took through the internet when it was sent to you. This means it can help us identify the perpetratorsâ€™ location(s). Full header information is included in every email that is sent. However, often email programs do not display the complete headers. The link below explains how to find this information so that you can send it to us
  3. **Complete message body:** Please include the complete, unedited content of the email message in question. Do not

change or edit the message in any way

- Save messages from the perpetrator for further investigation if necessary
- We would advise you to contact your local police and provide them with all information you may have from the senders

Do not

- Respond to unsolicited business propositions and/or offers of employment from people with whom you are unfamiliar
- Disclose your personal or financial details to anyone you do not know
- Send any money. BP does not ask for money transfers or payments from applicants to secure a job, either as an employee or as a contractor
- Engage in further communication if you believe the communications may be fraudulent

Lottery fraud

We are also aware of another fraud involving an online lottery. Please note that BP does not run such a lottery.

If you have been notified that you have won a large sum of money in an online prize lottery you should assume that this notification is fraudulent.

If you wish to determine whether an individual or organization offering such prizes is genuine, please contact us at the email address above.

We are taking this matter extremely seriously, and are passing all information relating to these frauds to the legal authorities for appropriate action.

back to top

© 1999-2009 BP p.l.c.

E-mail 57 of 61

Unknown

From: Malone, Richie [Richie.Malone@bp.com]
Sent: Wednesday, March 25, 2009 3:52 PM
To: kwabbott@comcast.net
Cc: Naseman, Bill E; Farnham, Gregory C
Subject: Draft email to Abbott

Dear Mr. Abbott:

I am writing in response to your recent communications to Messrs. Egner, Farnham, Hayward, and Naseman as well as emails you sent to BP Recruiting. You contacted the US Ombudsman's Office in February to raise concerns related to your employment with Swift and the contract services you provided to BP. At this time, BP will wait until the Ombudsman has completed that investigation before addressing these same points you raise in your email to Mr. Hayward. Likewise, BP is aware of your emails to BP Recruiting, but for the reasons just articulated, will not respond until the Ombudsman's investigation is complete.

You requested three pieces of information from Mr. Farnham: 1) **an email from Alan Clark regarding the end of his contract assignment.** We cannot provide information regarding other employees or contractors. 2) **A copy of the contract between Swift and BP.** At this time, we cannot provide this information, especially while an investigation is pending. 3) **Your "personnel file at BP."** You have never been employed by BP, and we therefore have no personnel file for you.

Please continue to cooperate with the Ombudsman as they investigate your concerns. If you have questions for other BP employees, please feel free to direct them to me, and I will address them or forward them to the appropriate persons.

Very truly yours,

Richie Malone

Richie Malone
BP Legal
Office: 281.366.1042
Fax: 281.366.2033
Mobile: 713.409.4859

E-mail 58 of 61

Unknown

From: McIntyre, Paul [Paul.McIntyre@bp.com]
Sent: Monday, March 30, 2009 12:45 PM
To: kwabbott@comcast.net
Cc: Malone, Richie
Subject: Solution to my wrongful discharge

Mr. Abbott:

I received your March 27, 2009 email regarding applying for a position with BP Alternative Energy. As you know, you were formerly a contractor for BP and therefore cannot "transfer" to a role within BP. However, you have the opportunity, like any other external candidate, to apply for open positions, which you have done. Consistent with BP policy, the job will be awarded to the most qualified candidate.

Paul J. McIntyre

Vice President - HR - GoM
Exploration & Production
1983 Westlake Four
Office: 281-366-5630
Cell: 281-813-5862

E-mail 59 of 61

Unknown

From: Kenneth Abbott [kwabbott@comcast.net]
Sent: Saturday, April 04, 2009 2:43 PM
To: kwabbott@comcast.net
Subject: FW: Test Records in Documentum

Attachments: BP original letter to vendor for turnover .PDF; Letter to Vendors for Turnover Rev 1.doc; Letter to Vendors for Turnover - Rev2.pdf; pic22570.gif

BP original letter to vendor f... | Letter to Vendors for Turnover... | Letter to Vendors for Turnover... | pic22570.gif (660 B)

-----Original Message-----
From: McVass@technip.com [mailto:McVass@technip.com]
Sent: Wednesday, November 05, 2008 12:03 PM
To: Abbott, Ken (SWIFT TECHNICAL SERVICES)
Cc: Weber, Dana (R&D Technical); Huntoon, George G (Clover); Hughes, John D; Jondle, John J; Schwebel, John; Malone, Ryan P; Curtis, Tinikka (NES); Broman, William H(HOU)
Subject: Fw: Test Records in Documentum

Forgot the attachments:

(See attached file: BP original letter to vendor for turnover .PDF) (See attached file: Letter to Vendors for Turnover Rev 1.doc)(See attached file: Letter to Vendors for Turnover - Rev2.pdf)

----- Forwarded by Malcolm Vass/AMERICA on 11/05/2008 12:02 PM -----

Malcolm Vass/AMERICA 11/05/2008 11:58 AM		To "Abbott, Ken (SWIFT TECHNICAL SERVICES)" <Ken.Abbott@bp.com>@TECHNIP-EXT cc "Weber, Dana (R&D Technical)" <Dana.Weber@bp.com>, "Huntoon, George G (Clover)" <George.Huntoon@bp.com>, "Hughes, John D" <john.hughes2@bp.com>, "Jondle, John J" <john.jondle@bp.com>, "Schwebel, John" <John.Schwebel@bp.com>, "Malone, Ryan P" <Ryan.Malone@bp.com>, "Curtis, Tinikka (NES)" <Tinikka.Curtis@bp.com>, "Broman, William H(HOU)" <william.broman@bp.com> Subject Re: FW: Test Records in Documentum(Document link: Malcolm Vass)

Ken,

With respect to Item1:

In general, the vendors issue Manufacturing Data Books and Operating and Maintenance Manuals. These documents are supposed to be formatted in accordance with BP requirements as detailed in the attached letter to vendors issued by BP procurement (I have attached the original letter plus the two revisions that followed), and issued in the quantities stated in the attached letter. When the documents are received by Document Control they are checked to ensure they meet BPs formatting requirements (this should be done by the Lead Engineer). If they do, they are logged into Documentum. Unfortunately, several of the vendors do not format their documents as required. Under these circumstances the documents will be rejected until corrected. Some vendors (such as FMC) will not format the books per requirements. Under these circumstances, we format the books as-and-when required depending on resource availability. For example, we currently have several FMC Manufacturing Data Books that we are reformatting. However, we do not have a resource dedicated to this re-formatting process.

With respect to Item 2:

These are data books prepared by BP. Whomever prepares the books needs to ensure they are formatted per BP's requirements. Equipment numbers and tag numbers can be obtained from Jeff Misher (Tagging Engineer). Jeff can check to ensure the books conform to requirements. If the books are formatted correctly, they should go into Documentum. Since these books are prepared by BP, they can be given directly to Tinikka Curtis for deposit into Documentum.

In summary, all Manufacturing Data Books, Test Records, Operating and Maintenance Manuals should be formatted per BP requirements and go into Documentum.

I have met with Dana and resolved the current issue.

Regards,

Malcolm Vass.

"Abbott, Ken (SWIFT TECHNICAL SERVICES)" <Ken.Abbott@bp.com>	To	"Vass, Malcolm (Technip)" <mcvass@technip.com>
	cc	"Curtis, Tinikka (NES)" <Tinikka.Curtis@bp.com>, "Broman, William H(HOU)" <william.broman@bp.com>, "Hughes, John D" <john.hughes2@bp.com>, "Malone, Ryan P" <Ryan.Malone@bp.com>, "Jondle, John J" <john.jondle@bp.com>, "Schwebel, John" <John.Schwebel@bp.com>, "Huntoon, George G (Clover)" <George.Huntoon@bp.com>, "Weber, Dana (R&D Technical)" <Dana.Weber@bp.com>
11/04/2008 01:57 PM	Subject	FW: Test Records in Documentum

Malcolm - would you please check into this? I agree with Dana that we should include all test results in our final documentation and ensure that results are traceable with tags for operations. These tests are important indicators of the continuing fitness for purpose of these items after manufacture and before final installation, and should be processed through the tag number flow.

From: Weber, Dana (R&D Technical)
Sent: Tuesday, November 04, 2008 1:43 PM
To: Abbott, Ken (SWIFT TECHNICAL SERVICES); Huntoon, George G (Clover)
Cc: Curtis, Tinikka (NES)
Subject: Test Records in Documentum

(Embedded image moved to file: pic22570.gif)
Ken,

As I mentioned this morning, we may need to revisit the definition of the documents & records that go through Technip Document control. This is the situation, as presented last week:

Using Trees as an example (will also apply to Manifolds, and any other equipment that is Deck or Subsea Tested):

We have 2 sources of information on the final configuration and performance of Atlantis Equipment:

- Source #1 - The manufacturer, as included in the Manufacturing Data Book (issued by the manufacturer)
- Source #2 - The BP team, as recorded in the post-delivery testing (included in the Hardy St. Deck Test, DD2 Deck Test, Tubing Hanger Deck Test, and Subsea Test record books)

Both of these sources provide us, and later the Operations group, with valuable performance data for this equipment. The document numbers for these post-delivery tests are included in the Handover Books, and the assurance of the testing (record of successful testing) is a requirement for the Mechanical Completion certificate included in the Handover certification.

When attempting to process the #2 type books through Technip Document Control, we were informed that "because the records were not sent in by the Manufacturer," there would be no "Tag No." referenced on them, and therefore included in the traceable records accessible by Operations.

The four test record books (as listed under "#2" above) are, in fact, the most recent performance test data available for each tree, and should be treated in line with the process for the Manufacturer's data books.

I would appreciate your assistance in making sure these records are not archived as non-traceable, inconsequential data, but are processed through the Tag No. flow as are the Manufacturer's data books.

Thanks,
Dana Weber
BP Atlantis Subsea
Handover Coordinator

Technip 4.71
Offc 281-249-7627
Cell 832-567-4670
dana.weber@bp.com

BP America Production Company
501 WestLake Park Boulevard
Houston, Texas 77079

type date

type vendor name
type address
type city, state, Zip

Attention: type name, if applicable; if not, delete this line

RE: BP Atlantis Project Final Vendor Data Books

Dear Vendor:

The Atlantis Subsea team is starting to receive Vendor Data Books. BP Operations (final BP client) has requested the following:

Book Marking - All books sent to the project should be Book Marked by installing tabs/dividers according to relevant information. The tabs should have titles marked on them to allow for quick reference for the operations team.

Electronic Files – The entire Data Book should be submitted in electronic format in addition to hardcopies. The electronic files shall not exceed 2 MegaBytes of data per file. It has been brought to our attention that computer servers which handle vendor documentation cannot handle voluminous manuals which are not provided in separate file format. Also, it is preferred that tabbed sections remain whole, and not be separated between electronic files.

Documents – We understand that our vendors have their own documentation processes, but BP requires that a BP document number be used upon transfer to us; furthermore, this number should be clearly visible on the first page of each (ALL) issued document(s). If you need assistance with your BP document number, please contact Willie mae Bowens at wbowens@technup.com .

Final Data Book - It is required that individually issued documents that pertain to Final Data Books for Operation, Reference, or Maintenance, be provided to us within one large Final Data Book. It may, however, be issued as separate volumes of the same Final Book (i.e., Vol. I – Technical, Vol. II – Maintenance, Vol. III – Operating Procedures). A Table of Contents that references Tabs and Book Volumes should follow the title page in the Final Book.

Document Release – We require as a minimum, and as per Work Package Releases or Purchase Orders, that two (2) hardcopies and one (1) electronic copy be submitted to our Document Control group when you release Final Data Books to us.

Please contact Jeff Misher at jmisher@technip.com for inquiry or clarification .

Thank you for your cooperation,

Rochelle Savel
Supply Chain Management – Deep Water, Deep Gas Business Unit
Atlantis Subsea Project Team
Rochelle.Savel@bp.com
BP AMERICA PRODUCTION COMPANY

~~13-Jun-2005~~
01-Jun-2006

RE: BP Atlantis Project Final Vendor Data Books

Dear Vendor,

The Atlantis Subsea team is starting to receive Vendor Data Books, BP Operations, (final BP client) has requested the following:

Book Marking - All books sent to the project should be Book Marked by installing tabs/dividers in the hardcopy according to relevant information. The tabs should have titles marked on them to allow for quick reference for the operations team. Electronic file bookmarking should have hot links which take you directly to desired tabs within any data book.

Electronic Files–The entire Data Book should be submitted in electronic format in addition to hardcopies. ~~The electronic files shall not exceed 2 MegaBytes of data per file. It has been brought to our attention that computer servers which handle vendor documentation cannot handle voluminous manuals which are not provided in separate file format.~~ One all inclusive book marked electronic file is acceptable, otherwise if separated according to volumes, they should also be book marked. Also, it would be preferred that tabbed sections remain whole, and would not be separated between electronic files.

Documents–We understand that our vendors have their own documentation processes, but BP requires that a BP document number be used upon transfer to us; furthermore, this number should be clearly visible on the ~~first~~ cover page of each (ALL) issued document(s). Also, related equipment tags should be visible on the cover and/or table of contents as a minimum. Equipment tags should be included on detailed/assembly drawings. Data book title and document number should be visible on the spine of the binder and face of the CDs.

Final Data Book - It is required that individually issued documents that pertain to Final Data Books for Operation, Reference, or Maintenance, be provided to us within one large Final Data Book. It may however be issued as separate volumes of the same Final Book (i.e.,Vol. I –Technical, Vol. II–Maintenance, Vol. III–Operating Procedures). A Table of Contents that references Tabs and Book Volumes should follow the title page in the Final Book.

Document Release–We require as a <u>minimum</u>, and as per Work Package Releases or Purchase Orders, that 2 hardcopies and ~~+~~ 2 electronic ~~copy~~ copies (CDs) be submitted to our Document Control group when you release Final Data Books to us.

Please contact us immediately for inquiry or clarification.

Thank you for your cooperation as it helps us to better serve our client.

13-Jun-2005

RE: BP Atlantis Project Final Vendor Data Books

Dear Vendor,

The Atlantis Subsea team is starting to receive Vendor Data Books, BP Operations, (final BP client) has requested the following:

Book Marking - All books sent to the project should be Book Marked by installing tabs/dividers according to relevant information. The tabs should have titles marked on them to allow for quick reference for the operations team.

Electronic Files – The entire Data Book should be submitted in electronic format in addition to hardcopies. Also, it would be preferred that tabbed sections remain whole, and would not be separated between electronic files.

Documents – We understand that our vendors have their own documentation processes, but BP requires that a BP document number be used upon transfer to us; furthermore, this number should be clearly visible on the first page of each (ALL) issued document(s). The BP document number should also be visible on the spine and front cover of the book.

Final Data Book - It is required that individually issued documents that pertain to Final Data Books for Operation, Installation, or Maintenance, be provided to us within one large Final Data Book. It may however be issued as separate volumes of the same Final Book (i.e., Vol. I – Technical, Vol. II – Maintenance, Vol. III – Operating Procedures). A Table of Contents that references Tabs and Book Volumes should follow the title page in the Final Book.

Document Release – We require as a minimum, and as per Work Package Releases or Purchase Orders, that 2 hardcopies and 2 CDs be submitted to our Document Control group when you release Final Data Books to us.

Please contact us immediately for inquiry or clarification.

Thank you for your cooperation as it helps us to better serve our client.

pic 22570.pic

E-mail 60 of 61

Unknown

From: Kenneth Abbott [kwabbott@comcast.net]
Sent: Saturday, April 04, 2009 2:40 PM
To: kwabbott@comcast.net
Subject: FW: Atlantis Subsea P&IDs

Attachments: DC1 As Built PID.xls

DC1 As Built PID.xls
(30 KB)

-----Original Message-----
From: McVass@technip.com [mailto:McVass@technip.com]
Sent: Wednesday, November 05, 2008 2:16 PM
To: Abbott, Ken (SWIFT TECHNICAL SERVICES)
Subject: Atlantis Subsea P&IDs

Ken,

Please find attached a list of DC1 as-built P&IDs that should be complete by the end of this month. We have to prepare a new P&ID for the DC142 tree since the Test jumper was not installed on that well. When these drawings are issued, that should complete the Technip DC1 suite of drawings other
than:

1) Drawing revisions / new drawings required to support installation of future wells at DC1.

2) Drawings required for the water injection wells.

3) Any revisions BP may wish to make.

I'm working on the DC3 drawing list.

Regards,

Malcolm

(See attached file: DC1 As Built PID.xls)

BP Drg. No.	Technip Drg. No.	Sheet	Rev.	Date	Title
1440-30-SB-DG-0360-002	3478-BSB-DC-1000-02	N/A	10	11/4/08	DC-1-SS1, Subsea Piping Schematic
1440-35-SB-DG-0177-001	3478-BSB-DC-1008	1	1	8/18/08	DC1/DC3 - P&ID Subsea Prod. Tree w/Downhole Flow Control & EVP
1440-35-SB-DG-0177-002	3478-BSB-DC-1008	2	1	8/18/08	DC1/DC3 - P&ID Subsea Prod. Tree w/Downhole Flow Control & EVP
1440-35-SB-DG-0167-001	3478-BSB-DC-1007	1	1	8/18/08	DC1/DC3 - P&ID Subsea Prod. Tree w/Downhole Flow Control
1440-35-SB-DG-0167-002	3478-BSB-DC-1007	2	1	8/18/08	DC1/DC3 - P&ID Subsea Prod. Tree w/Downhole Flow Control
1440-35-SB-DG-0388-001	3478-BSB-DC-1012-01	N/A	B	10/7/08	DC1 - SS1 P&ID Manifold Man-1A (As-Built)
1440-35-SB-DG-0388-002	3478-BSB-DC-1012-02	N/A	B	10/7/08	DC1 - SS1 P&ID Manifold Man-2A (As-Built)
1440-35-SB-DG-0388-003	3478-BSB-DC1012-03	N/A	B	10/7/08	DC1 - SS1 P&ID Manifold Man-4A (As-Built)
1440-35-SB-DG-0388-004	3478-BSB-DC-1012-04	N/A	B	10/7/08	DC1 - SS1 P&ID Riser, PLETs, and Flowlines (As-Built)
1440-35-SB-DG-0109	3478-BSB-DC-0401	N/A	3	8/18/08	DC1/DC3 - P&ID Standard Subsea Prod. Tree
1440-35-SB-DG-0278-001	3478-BSB-DC-1074-01	N/A	A	10/6/08	DC1/DC3 - P&ID Subsea Prod. Tree w/Manual Override Fitted To "AMV"
1440-35-SB-DG-	3478-BSB-DC-				New Drawing Required For Well DC142 - No Test Jumper Installed

Case 4:09-cv-01193 Document 345-12 Filed in TXSD on 04/04/12 Page 45 of 49

E-mail 61 of 61

Unknown

From: Kenneth Abbott [kwabbott@comcast.net]
Sent: Saturday, April 04, 2009 2:42 PM
To: kwabbott@comcast.net
Subject: FW: FW: Test Records in Documentum

-----Original Message-----
From: Weber, Dana (R&D Technical)
Sent: Wednesday, November 05, 2008 12:14 PM
To: Vass, Malcolm (Technip); Abbott, Ken (SWIFT TECHNICAL SERVICES)
Cc: Huntoon, George G (Clover); Hughes, John D; Jondle, John J; Schwebel, John; Malone, Ryan P; Curtis, Tinikka (NES); Broman, William H(HOU)
Subject: RE: FW: Test Records in Documentum

Malcolm and I visited on this and we have established a process for getting the tag numbers on these records, and then delivering them to Tinikka for putting into Documentum...thanks to all for helping resolve this!

Dana Weber
BP Atlantis Subsea
Handover Coordinator
Technip 4.71
Offc 281-249-7627
Cell 832-567-4670
dana.weber@bp.com

-----Original Message-----
From: McVass@technip.com [mailto:McVass@technip.com]
Sent: Wednesday, November 05, 2008 11:59 AM
To: Abbott, Ken (SWIFT TECHNICAL SERVICES)
Cc: Weber, Dana (R&D Technical); Huntoon, George G (Clover); Hughes, John D; Jondle, John J; Schwebel, John; Malone, Ryan P; Curtis, Tinikka (NES); Broman, William H(HOU)
Subject: Re: FW: Test Records in Documentum

Ken,

With respect to Item1:

In general, the vendors issue Manufacturing Data Books and Operating and Maintenance Manuals. These documents are supposed to be formatted in accordance with BP requirements as detailed in the attached letter to vendors issued by BP procurement (I have attached the original letter plus the two revisions that followed), and issued in the quantities stated in the attached letter. When the documents are received by Document Control they are checked to ensure they meet BPs formatting requirements (this should be done by the Lead Engineer). If they do, they are logged into Documentum. Unfortunately, several of the vendors do not format their documents as required. Under these circumstances the documents will be rejected until corrected. Some vendors (such as FMC) will not format the books per requirements. Under these circumstances, we format the books as-and-when required depending on resource availability. For example, we currently have several FMC Manufacturing Data Books that we are reformatting. However, we do not have a resource dedicated to this re-formatting process.

With respect to Item 2:

These are data books prepared by BP. Whomever prepares the books needs to ensure they are formatted per BP's requirements. Equipment numbers and tag numbers can be obtained from Jeff Misher (Tagging Engineer). Jeff can check to ensure the books conform to

requirements. If the books are formatted correctly, they should go into Documentum. Since these books are prepared by BP, they can be given directly to Tinikka Curtis for deposit into Documentum.

In summary, all Manufacturing Data Books, Test Records, Operating and Maintenance Manuals should be formatted per BP requirements and go into Documentum.

I have met with Dana and resolved the current issue.

Regards,

Malcolm Vass.

"Abbott, Ken (SWIFT TECHNICAL SERVICES)" <Ken.Abbott@bp.com>		To
11/04/2008 01:57 PM	"Vass, Malcolm (Technip)" <mcvass@technip.com>	cc
	"Curtis, Tinikka (NES)" <Tinikka.Curtis@bp.com>, "Broman, William H(HOU)" <william.broman@bp.com>, "Hughes, John D" <john.hughes2@bp.com>, "Malone, Ryan P" <Ryan.Malone@bp.com>, "Jondle, John J" <john.jondle@bp.com>, "Schwebel, John" <John.Schwebel@bp.com>, "Huntoon, George G (Clover)" <George.Huntoon@bp.com>, "Weber, Dana (R&D Technical)" <Dana.Weber@bp.com>	Subject
	FW: Test Records in Documentum	

Malcolm - would you please check into this? I agree with Dana that we should include all test results in our final documentation and ensure that results are traceable with tags for operations. These tests are important indicators of the continuing fitness for purpose of these items after manufacture and before final installation, and should be processed through the tag number flow.

From: Weber, Dana (R&D Technical)
Sent: Tuesday, November 04, 2008 1:43 PM
To: Abbott, Ken (SWIFT TECHNICAL SERVICES); Huntoon, George G (Clover)
Cc: Curtis, Tinikka (NES)
Subject: Test Records in Documentum

(Embedded image moved to file: pic04734.gif) Ken,

As I mentioned this morning, we may need to revisit the definition of the documents & records that go through Technip Document control. This is the situation, as presented

last week:

Using Trees as an example (will also apply to Manifolds, and any other equipment that is Deck or Subsea Tested):

We have 2 sources of information on the final configuration and performance of Atlantis Equipment:

Source #1 - The manufacturer, as included in the Manufacturing Data Book (issued by the manufacturer)

Source #2 – The BP team, as recorded in the post-delivery testing (included in the Hardy St. Deck Test, DD2 Deck Test, Tubing Hanger Deck Test, and Subsea Test record books)

Both of these sources provide us, and later the Operations group, with valuable performance data for this equipment. The document numbers for these post-delivery tests are included in the Handover Books, and the assurance of the testing (record of successful testing) is a requirement for the Mechanical Completion certificate included in the Handover certification.

When attempting to process the #2 type books through Technip Document Control, we were informed that "because the records were not sent in by the Manufacturer," there would be no "Tag No." referenced on them, and therefore included in the traceable records accessible by Operations.

The four test record books (as listed under "#2" above) are, in fact, the most recent performance test data available for each tree, and should be treated in line with the process for the Manufacturer's data books.

I would appreciate your assistance in making sure these records are not archived as non-traceable, inconsequential data, but are processed through the Tag No. flow as are the Manufacturer's data books.

Thanks,
Dana Weber
BP Atlantis Subsea
Handover Coordinator
Technip 4.71
Offc 281-249-7627
Cell 832-567-4670
dana.weber@bp.com

ATTACHMENT C

AFFIDAVIT OF MICHAEL E. SAWYER, P.E., CSP

1. I, Michael E. Sawyer, am more than 21 years of age, and I am competent to make this affidavit. The facts stated below are true and correct and are based on my personal knowledge, formal education, and professional experience.

Professional Background and Experience

2. I am a licensed Professional Engineer in the States of Texas and Massachusetts. I hold a Bachelor of Science in Safety Engineering from Texas A&M University and have over 28 years of experience in the area of process safety engineering in the oil and gas industries. I also maintain a Certified Safety Professional (CSP) certification.

3. My broad-based process safety experience includes upstream[1] projects such as leading hazard analyses of Gulf of Mexico facilities for Pemex, Shell Exploration and Production, Shell Venezuela, Petrolera Zuata (Petrozuata Venezuela), and Chevron's Tombua-Landana platform.

4. I also have significant downstream process experience, such as analysis of process designs beginning with front-end engineering design and continuing through to final assessment and hazard analysis of the "approved" design. This experience includes projects such as world-scale ethylene production facilities, ammonia processing plants, and marine export terminals for oil and gas.

5. My experience also includes supporting the development and implementation of proactive process safety programs. Paramount to the development of these programs is document control and management of design changes. In addition, I have facilitated numerous audits of process safety programs and conducted detailed evaluations of

[1] In the process industries, "upstream" refers to exploration and production, while "downstream" refers to refining and marketing.

engineering design documentation and management of design changes throughout my career.

Basis of This Affidavit

6. This affidavit and the opinions contained herein are based upon my review of:

(a) documents and drawings submitted by BP to the Minerals Management Service (MMS)[2] as part of the agency's investigation of Atlantis, under the cover of a letter from Simon Todd, BP Vice President, dated August 9, 2010;[3]

(b) documents and drawings submitted by BP to MMS as part of BP's permit application to install the Atlantis Production Safety System; and

(c) documents and drawings produced in the instant lawsuit pertaining to the controls and safety systems for the Atlantis.

Opinions Regarding Atlantis Drawings Submitted With Todd's Books 1-6 and BP's PSS Permit Application

7. Of the 2,104 drawings submitted as Todd's Books 1-6 responding to the agency's request for the certified "as-built" plans and specifications required to be maintained by OCSLA regulations Subpart I, only 608 (29%) drawings are marked with the seal or stamp of a registered professional engineer for the current revision of the drawing. Six (6) of those 608 drawings were produced by GVA and covered under the Platform certification departure that MMS granted for the design work performed in Sweden by GVA Consultants.

8. For the Topsides structure, almost 100% of Mustang Engineering drawings were initially certified with the seal or stamp of a registered professional engineer. As the

[2] Because the permitting activity for the Atlantis took place when the agency tasked with implementing the OCSLA regulations was called MMS, I refer to it as MMS in this affidavit.
[3] Letter attached as Exhibit 1.

drawings progressed through revisions, many certifications were not carried forward. In the end, out of 950 Mustang drawings, only 600 (63%) were certified with the stamp or seal of a registered professional engineer for the current revision.

9. Of the 1154 drawings for the hull, floating, and mooring structure of the platform, only 8 are certified with a registered professional engineer's seal or covered under the GVA departure. Daewoo Shipbuilding and Marine Engineering (DSME), a Korean shipbuilding firm, prepared 1013 of the 1154 drawings.

10. Of the 2,104 drawings submitted as Todd's Books 1-6, only 72 drawings (3.4%) were marked "As-Built." Of the 2,104 drawings, 1,666 of the drawings (79%) were dated prior to May 2005, when the Atlantis Platform integration began and 226 (11%) of the drawings have no date.

11. Of the 522 design drawings BP submitted to MMS with the Atlantis Production Safety System Permit Application, none (0%) was marked with the seal or stamp of a registered professional engineer.

12. Ninety percent (90%) of the persons whose initials appear in the "engineer" block of the Atlantis Production Safety System designs are not confirmed Texas registered professional engineers. Ninety-seven (97%) of the persons whose initials appear in the "approved" block of the designs are not confirmed registered professional engineers.

13. Todd's August 9, 2010 letter purported to enclose a list of registered professional engineers who reviewed and approved the designs of the mechanical and electrical systems of the Atlantis Production Safety System. None of the engineers on the enclosed list initialed or sealed the designs produced to MMS; four (4) had incorrect professional engineering information; two of the Texas professional engineering license numbers do

not exist; and one engineer listed had his license granted in 2009, well after the August 1, 2005 Production Safety System certification for Atlantis.

14. To further substantiate the numbers and percentages stated in Paragraphs 7-13 above, attached hereto as Exhibit 2 are spreadsheets identified as MS8-2 through MS8-7 (Amended) and my Analysis of MS8 Books 1-6 Drawings.

Opinions Regarding Atlantis Controls and Safety Systems

15. Any and all safety planning assumes there will be inadvertent hydrocarbon releases. The purpose of safety systems is to mitigate the unwanted consequences that could harm personnel, property, and/or the environment.

16. The first priority in the event of an unplanned release is to shutoff (isolate) the inflow of hydrocarbons (fuel) in order to minimize its effects. The purpose of the Emergency Support System (ESS), which is part of the Production Safety System, is to mitigate consequences of hydrocarbon release, fire, or process safety system malfunction. OCSLA Subpart H regulations require all tubing open to hydrocarbon bearing zones to be equipped with safety devices to shutoff flow in the event of an emergency. The regulations describe valves used to isolate the well during an emergency; such as Surface Safety Valves (SSVs), Underwater Safety Valves (USVs), and Surface Controlled Subsurface Safety Valves (SCSSVs). The first shuts off inflow of production from riser onto the platform (boarding shutdown valve); the USV shuts off pressure and flow at the tree; and the SCSSV shuts off all flow and pressure deep in the well itself.

17. The regulations require closing the SSV in 45 seconds and the SCSSV in not more than 2:45 minutes after automatic detection of an abnormal condition or actuation

of an Emergency Shutdown (ESD). See 30 CFR 250.803(b)(4)(ii). This is intended to mitigate any hydrocarbon release and avert a catastrophe.

18. OCSLA Subpart H regulations allow design-delayed closure time greater than 2:45 minutes based on the well's mechanical/production characteristics and District Supervisor's approval. Atlantis was granted a waiver extending closing of the SCSSV with a delay timer for up to an hour, during which time various other subsea valves are commanded closed to isolate the flow; these valves are to be actuated by electronic signals from the Subsea Controls System (SCSS). If the Subsea Controls System electronics or communications with the valve actuators fail, those valves will remain open, and the only isolation will be at the Platform boarding valve. Reliance on only the boarding valve is a violation of 30 CFR 250.803(b)(4)(ii) and creates unnecessary dangers to personnel, the platform, and the environment. For this reason, the regulations do not allow delay in closing the SCSSV by the delay timer if there has been a loss of communications with the subsea valves. This is a requirement of the shutdown logic sequence and timing as approved by MMS.

19. The Atlantis controls system as designed and built does not recognize a loss of communications with a well resulting from failures of the Single Board Computers (SBCs). In fact, the Atlantis controls system as designed and built continues to allow the use of the 60 min. delay timer even when well communications are lost and the tree valves remaining open. This leaves the Platform protected only by the boarding valve, with the riser/flowline under high pressure. This could be very dangerous. Considering the large quantity of hydrocarbons stored on Atlantis, it is quite possible for an upset (hydrocarbon release) to escalate suddenly into a fire and explosion during the delay.

Such an event might cause damage the physical mechanics of the ESS so that it could no longer signal the hydraulic power unit to dump hydraulics and shutdown the SCSSVs, and also cause physical damage to the boarding valve or the pressurized flowline/riser resulting in a release of the pressurized contents of the flowline. In that event, the flowline contents under high pressure continually fed by the flow from the open wells could provide an uninterrupted fuel source that would almost certainly ignite with catastrophic results similar to the Deepwater Horizon.

20. The high-pressure hydraulic supply from the Hydraulic Power Unit (HPU) accepts commands from the ESS and is used to depressure the hydraulics and close the SCSSV and other subsea valves during an emergency such as the scenario above. Although safety and process logic diagrams for emergency and process shutdowns show an immediate initiation of subsea ESD sequence during a fire signal, the HPU shutdown logic shows delay timers from 60 to 120 minutes before initiation, which leads to questions regarding priorities during an emergency.

21. Pursuant to the provisions of 28 U.S.C. §1746, I declare under penalty of perjury that the foregoing is true and correct.

Executed this 28 day of December, 2011 in Houston, Texas.

MICHAEL E. SAWYER, P.E., CSP

Attached Exhibits:
Exhibit 1: 8/9/2010 Todd/BP Letter to MMS
Exhibit 2: Sawyer Spreadsheets

EXHIBIT 1

BP Exploration & Production Inc.

200 WestLake Park Boulevard
Houston, Texas 77079-2696
Phone: 281-366-0307

Simon Todd
Vice President, Thunder Horse
Gulf of Mexico

August 9, 2010

Bureau of Ocean Energy Management, Regulation,
and Enforcement
Attention: Mr. Michael J. Saucier (MS 5200)
1201 Elmwood Park Boulevard
New Orleans, Louisiana 70123

Re: Atlantis Platform

Dear Mr. Saucier:

On July 26, 2010, BP Exploration & Production, Inc. ("BP") received your letter dated July 21, 2010, in which the Bureau of Ocean Energy Management, Regulation, and Enforcement ("BOEM") requested copies of engineering drawings pertaining to the Atlantis platform. BP's response is enclosed.

Books 1-6 contain BP's response to your request (No. 1) for copies of structural drawings referenced in 30 C.F.R. § 250.903 and § 250.905. Further, in response to your request and pursuant to 30 C.F.R. § 250.905(k), BP hereby verifies the following with respect to the Atlantis platform:

> The design of this structure has been certified by a recognized classification society, or a registered civil or structural engineer or equivalent, or a naval architect or marine engineer or equivalent, specializing in the design of offshore structures. The certified design and as-built plans and specifications will be on file at BP's offices in Houston, Texas.

Discovery Ex. No. 7
Cause No.
4:09-cv-01193
Abbott v. BP

Because the Atlantis platform is comprised of several different major components, in making the foregoing certification statement BP relies on the work of multiple engineers, rather than any single engineer.

Books 7-10 contain BP's response to your request (No. 2) for copies of those drawings associated with BP's Production Safety System Application, as well as copies of drawings of the subsea systems including umbilicals.

The table attached to this letter responds to your request for a list of the registered professional engineers associated with BP's certification in its letter dated August 1,

2005, concerning the design for the mechanical and electrical systems for the Atlantis semi-submersible production unit.

As BP has done throughout the agency's audit of engineering documents associated with Atlantis, BP has endeavored to respond to your letter as fully and completely as possible based on BP's understanding of the scope and intent of your requests. If upon reviewing this response BOEM determines that BP has not supplied all of the drawings and information that BOEM requires, please let us know and we will supplement this response to the best of our ability. As BOEM reviews BP's response to your letter, please note the following:

(1) Because Atlantis is a semi-submersible platform, some of the types of structural drawings listed in the current platform regulations and identified in your letter (such as structural drawings pertaining to turrets) are categorically inapplicable to Atlantis.

(2) Because the enclosed drawings were prepared by several different engineering firms, the nomenclature used to indicate the revision status of drawings differs among the numerous drawings contained in the enclosed books. For example, drawings by DSME used "Rev. 60" to denote an "as-built" drawing, while "as-built" drawings by FMC Technologies were typically labeled "design" because FMC builds equipment and structures to the design.

If BOEM requires any additional explanation of the enclosed materials, or if BOEM requires BP to supplement the enclosed materials, please let us know.

Sincerely,

Simon P. Todd

Vice President, Thunder Horse

Last Name	First Name	Area of Expertise	Credentials (State, Registration #)	Company (at time of Atlantis design)	Company address	Company phone
Hung	Thomas	Electrical Engineer	Texas, Reg # 48916	KBR	601 Jefferson, Houston, TX	713-753-7524
Norman	Dave	Electrical Engineer	UK, Chartered Engineer	BP	601 Jefferson, Houston, TX	713-753-8184
Amin	Henry	Lead Mechanical Engineer	Texas #53795	Mustang	16001 Park Ten Place, Houston, TX 77084	713-215-8000
Andersen	David	Mechanical Engineer	Texas, Reg # 91479	KBR	601 Jefferson, Houston, TX	713-753-5433
Barton	David	Structural Engineer	Texas, Reg # 78770	KBR	601 Jefferson, Houston, TX	713-753-5644
Behari	Sam	Process Engineer	Texas #78420	Mustang	16001 Park Ten Place, Houston, TX 77084	713-215-8000
Butler	Myles	Mechanical Engineer	NF, Canada Reg # 01825	KBR	601 Jefferson, Houston, TX	713-753-2089
Chumchal	William	Project Manager	Texas #85802	Mustang	16001 Park Ten Place, Houston, TX 77084	713-215-8000
Comeaux	Ken	Electrical Engineering	Louisiana #0023284	Mustang	16001 Park Ten Place, Houston, TX 77084	713-215-8000
Desai	Mike	Mechanical Engineer	Texas, Reg # 49859	KBR	601 Jefferson, Houston, TX	713-753-7403
Ellis	John	Upstream Coordinator/Civil/Struct/Marine PL Engineering	Texas #51872	Mustang	16001 Park Ten Place, Houston, TX 77084	713-215-8000
Ferris	Mark	Equipment Engineering	Texas #80118	Mustang	16001 Park Ten Place, Houston, TX 77084	713-215-8000
Gephart	Joe	Piping Engineer	Texas #76632	Mustang	16001 Park Ten Place, Houston, TX 77084	713-215-8000
Gilliam	William (Ken)	Control Systems Engineer	Texas, Reg # 80120	KBR	Houston, TX	713-215-8000
Hart	Jerry	Topsides Interface Coordinator	Texas #36323	Mustang	16001 Park Ten Place, Houston, TX 77084	713-215-8000
Holmes	Mike	Upstream Process Engineering	Texas #41121	Mustang	16001 Park Ten Place, Houston, TX 77084	713-215-8000
Knowles	Steve	Upstream Sector Manager	Texas #72991	Mustang	16001 Park Ten Place, Houston, TX 77084	713-215-8000
Lake	Jeff	Mechanical Facilities Engineering	Texas #61819	Mustang	16001 Park Ten Place, Houston, TX 77084	713-215-8000
MacFarlane	James	Korean Site Construction MGR	Alberta, Canada Reg # 39706	BP Consultant	Unknown	281 222 0077
Parihar	Arun (A.K.)	Process Engineer	Texas, Reg # 92095	KBR	Houston, TX	281-828-3500
Peters	Walt	Mechanical Engineer	Texas #46805	Mustang	16001 Park Ten Place, Houston, TX 77084	713-215-8000
Phillips	Ralph	Project Engineer	Texas #53702	Mustang	16001 Park Ten Place, Houston, TX 77084	713-215-8000
Redmon	Paul	President	Texas #56485	Mustang	No Longer employed by Mustang	
Rivas	Gonzalo	Instrument Engineer	Texas #102825	Mustang	16001 Park Ten Place, Houston, TX 77084	713-215-8000
Robinett	Bernie	Mechanical Engineer	Texas #55614	Mustang	16001 Park Ten Place, Houston, TX 77084	713-215-8000
Robleto	Robert	Piping Stress Engineer	Texas, Reg # 46277	KBR	601 Jefferson, Houston, TX	713-753-7105
Sanders	Joe	Shared Engineering	Texas #49245	Mustang	16001 Park Ten Place, Houston, TX 77084	713-215-8000
Sengupta	Aparajita	HVAC Engineer	Texas, Reg # 49833	KBR	Houston, TX	713 892 0999
Shirley	Richard	Upstream Project Engineer Manager	Texas #56203	Mustang	16001 Park Ten Place, Houston, TX 77084	713-215-8000
Smith	Sam	Rotating Eqpt. Engineer	Texas #72670	Mustang	16001 Park Ten Place, Houston, TX 77084	713-215-8000
Voltz	Don	Electrical Engineer	Alaska AEL E 9828	Mustang	No Longer employed by Mustang	
Westbrook	Dick	Upstream Project Director	Texas #54247	Mustang	16001 Park Ten Place, Houston, TX 77084	713-215-8000

Case 4:09-cv-01193 Document 346 Filed in TXSD on 04/04/12 Page 11 of 90

EXHIBIT 2

MS8-2: Todd Production Inventory (Book 01)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-20-ST-DG-2000-003	Weld Connection Details	Rev 3; Revised after IFC	2/12/03	6/24/03	MCH		NO		Rev 3	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2000-004	Weld Connection Details	Rev 3; Revised after IFC	2/12/03	8/26/03	MCH		NO		Rev 3	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2000-005	Weld Connection Details	Rev 1; Revised after IFC	2/12/03	4/30/03	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2000-006	Weld Connection Details	Rev 2; Revised after IFC	2/12/03	6/24/03	MCH		NO		Rev 2	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2000-007	Weld Connection Details	Rev 1; Revised after IFC	2/12/03	6/24/03	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2000-008	Handrail Details	Rev 2; Revised after IFC	6/4/03	10/19/03	MCH		NO		Rev 2	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2000-009	Handrail Details	Rev 2; Revised after IFC	6/5/03	10/19/03	MCH		NO		Rev2	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2000-010	Handrail Details	Rev 2; Revised after IFC	6/12/03	4/21/04	MCH		NO		Rev 2	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2000-011	Drain Through Details	Rev 2; Revised after IFC	6/12/03	10/19/03	MCH		NO		Rev 2	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2000-012	Typcial ladder	Rev 0; IFC	9/26/03	10/19/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2000-013	Typcial ladder	Rev 0; IFC	9/26/03	10/19/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2000-014	Typcial ladder	Rev 0; IFC	10/6/03	2/4/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2000-015	Fixed Stair Details	Rev 2; Revised after IFC	12/11/03	2/23/04	MCH		NO		Rev 2	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2000-016	Fixed Stair Details	Rev 1; Revised after IFC	11/21/03	5/10/04	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2000-017	Stair Support Frames	Rev 0; IFC	1/20/04	5/10/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2000-018	Stair Support Frames	Rev 0; IFC	2/16/04	2/23/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-2000-019	Misc Details	Rev 0; IFC	3/23/04		MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2100-001	Comp Module Loading Diagrams	Rev 0; IFC	4/30/03	2/27/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2100-002	Comp Module Loadout/ Tow	Rev 1; Revised after IFC	4/1/03	2/18/04	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2101-001	Comp Module Framing Plan	Rev 3; Revised after IFC	4/1/03	4/21/04	MCH		NO		Rev 3	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2102-001	Comp Module Framing Plan	Rev 3; Revised after IFC	7/30/02	8/26/03	MCH		NO		Rev 3	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2103-001	Comp Module Truss Row	Rev 1; Revised after IFC	8/4/02	8/26/03	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2103-002	Comp Module Truss Row	Rev 2; Revised after IFC	8/4/02	2/27/04	MCH		NO		Rev 2	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2103-003	Comp Module Truss Row	Rev 2; Revised after IFC	8/5/02	8/26/03	MCH		NO		Rev 2	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang

MS8-2: Todd Production Inventory (Book 01)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-20-ST-DG-2103-004	Comp Module Truss Row	Rev 1; Revised after IFC	7/30/02	8/26/03	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2103-005	Comp Module Truss Row	Rev 1; Revised after IFC	7/30/02	8/26/03	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2103-006	Comp Module Truss Row	Rev2; Revised after IFC	7/30/02	8/27/03	MCH		NO		Rev 2	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2103-007	Comp Module Truss Row	Rev2; Revised after IFC	7/30/02	2/27/04	MCH		NO		Rev 2	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2103-008	Comp Module Truss Row	Rev 1; Revised after IFC	7/30/02	8/26/03	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2103-009	Comp Module Truss Row	Rev 1; Revised after IFC	7/30/02	8/26/03	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2103-010	Comp Module Truss Row	Rev 1; Revised after IFC	7/30/02	8/26/03	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG100		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG101		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG102		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG103		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG104		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG105		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG106		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG107		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG108		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG109		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG110		Rev 1; Revised after IFC	6/21/02	6/24/03	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG111		Rev 1; Revised after IFC	6/21/02	6/24/03	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG112		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG113		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG114		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG115		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG116		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang

MS8-2: Todd Production Inventory (Book 01)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-20-ST-DG-2104-PG117		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG118		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG119		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG120		Rev 1; Revised after IFC	6/21/02	6/24/03	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG121		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG122		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG123		Rev 1; Revised after IFC	6/21/02	6/24/03	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG124		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG125		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG126		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG127		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG128		Rev 1; Revised after IFC	6/21/02	6/24/03	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG129		Rev 1; Revised after IFC	6/21/02	6/24/03	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG130		Rev 1; Revised after IFC	6/21/02	6/24/03	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG131		Rev 1; Revised after IFC	6/21/02	6/24/03	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG133		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG134		Rev 1; Revised after IFC	6/21/02	6/24/03	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG135		Rev 1; Revised after IFC	6/21/02	6/24/03	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG136		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG137		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG200		Rev 1; Revised after IFC	6/21/02	4/21/04	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG201		Rev 1; Revised after IFC	6/21/02	4/21/04	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG202		Rev 1; Revised after IFC	6/21/02	4/21/04	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG203		Rev 1; Revised after IFC	6/21/02	4/21/04	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang

MS8-2: Todd Production Inventory (Book 01)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-20-ST-DG-2104-PG204		Rev 1; Revised after IFC	6/21/02	4/21/04	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG205		Rev 1; Revised after IFC	6/21/02	4/21/04	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG206		Rev 1; Revised after IFC	6/21/02	4/21/04	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG207		Rev 1; Revised after IFC	6/21/02	6/24/03	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG208		Rev 1; Revised after IFC	6/21/02	6/24/03	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG209		Rev 1; Revised after IFC	6/21/02	6/24/03	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG210		Rev 1; Revised after IFC	6/21/02	6/24/03	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG211		Rev 1; Revised after IFC	6/21/02	6/24/03	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG212		Rev 1; Revised after IFC	6/21/02	6/24/03	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG213		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG214		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG215		Rev 1; Revised after IFC	6/21/02	4/21/04	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG216		Rev 0; IFC	7/25/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG217		Rev 1; Revised after IFC	6/21/02	6/24/03	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG218		Rev 1; Revised after IFC	6/21/02	6/24/03	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG219		Rev 0; IFC	7/25/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG220		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG221		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG222		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG223		Rev 1; Revised after IFC	6/21/02	6/24/03	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG224		Rev 1; Revised after IFC	6/21/02	6/24/03	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG225		Rev 1; Revised after IFC	6/21/02	6/24/03	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG226		Rev 1; Revised after IFC	6/21/02	6/24/03	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG227		Rev 0; IFC	7/25/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang

MS8-2: Todd Production Inventory (Book 01)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-20-ST-DG-2104-PG228		Rev 2; Revised after IFC	6/21/02	6/24/03	MCH		NO		Rev 2	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG229		Rev 2; Revised after IFC	6/21/02	6/24/03	MCH		NO		Rev 2	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG230		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG231		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG232		Rev 2; Revised after IFC	6/21/02	5/20/03	MCH		NO		Rev 2	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG233		Rev 2; Revised after IFC	6/21/02	5/20/03	MCH		NO		Rev 2	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG234		Rev 3; Revised after IFC	6/21/02	8/26/03	MCH		NO		Rev 3	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG235		Rev 3; Revised after IFC	6/21/02	8/26/03	MCH		NO		Rev 3	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG236		Rev 0; IFC	7/22/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG237		Rev 0; IFC	7/25/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG238		Rev 0; IFC	7/22/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG239		Rev 0; IFC	7/25/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG300		Rev 0; IFC	7/21/02	3/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG301		Rev 0; IFC	7/21/02	3/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG302		Rev 0; IFC	7/21/02	3/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG303		Rev 0; IFC	7/21/02	3/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG304		Rev 1; Revised after IFC	6/21/02	6/24/03	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG305		Rev 1; Revised after IFC	6/21/02	6/24/03	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG306		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG307		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG308		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG309		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG310		Rev 1; Revised after IFC	6/21/02	6/24/03	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG311		Rev 1; Revised after IFC	6/21/02	6/24/03	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang

MS8-2: Todd Production Inventory (Book 01)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-20-ST-DG-2104-PG312		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG313		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG314		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG315		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG316		Rev 1; Revised after IFC	6/21/02	6/24/03	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG317		Rev 1; Revised after IFC	6/21/02	6/24/03	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG318		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG319		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG320		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG321		Rev 1; Revised after IFC	6/21/02	6/24/03	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG322		Rev 1; Revised after IFC	6/21/02	6/24/03	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG323		Rev 0; IFC	6/21/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG327		Rev 0; IFC	8/11/03	8/26/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2104-PG328		Rev 0; IFC	8/11/03	8/26/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2201-001	Framing Plan at Lower Level	Rev 2; Revised after IFC	8/18/03	2/9/04	MCH		NO		Rev 2	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2201-002	Framing Plan at Lower Level	Rev 2; Revised after IFC	8/18/03	4/21/04	MCH		NO		Rev 2	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2201-003	Framing Plan at Lower Level	Rev 1; Revised after IFC	8/18/03	2/21/03	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2201-003	Framing Plan at Lower Level	Rev 1; Revised after IFC	8/18/03	2/21/03	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2202-001	Misc Framing	Rev 1; Revised after IFC	8/8/03	2/21/03	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2202-002	Misc Framing	Rev 2; Revised after IFC	8/18/03	10/23/03	MCH		NO		Rev 2	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2202-003	Misc Framing	Rev 0; IFC	11/10/03	10/23/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2203-001	Equip Support Details	Rev 1; Revised after IFC	9/8/03	9/16/03	MCH		NO		Rev 1	MCH		Topside Compression	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-2203-002	Equip Support Details	Rev 1; Revised after IFC	10/6/03	4/21/04	MCH		NO		Rev 1	MCH		Topside Compression	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-2203-003	Equip Support Details	Rev 2; Revised after IFC	10/7/03	4/21/04	DRR		NO		Rev 2	DRR		Topside Compression	YES	Daniel R. Ramirez TX 46931	Mustang

MS8-2: Todd Production Inventory (Book 01)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-20-ST-DG-2203-004	Equip Support Details	Rev 1; Revised after IFC	11/3/03	5/20/04	DRR		NO		Rev 1	DRR		Topside Compression	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-2204-001	Lower Level Plating	Rev 3; Revised after IFC	6/16/03	2/9/04	MCH		NO		Rev 3	MCH		Topside Compression	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-2204-002	Lower Level Plating	Rev 2; Revised after IFC	6/16/03	4/21/04	DRR		NO		Rev 2	DRR		Topside Compression	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-2204-003	Lower Level Plating	Rev 2; Revised after IFC	6/16/03	4/30/04	DRR		NO		Rev 2	DRR		Topside Compression	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-2204-004	Lower Level Plating	Rev 2; Revised after IFC	6/16/03	4/21/04	DRR		NO		Rev 2	DRR		Topside Compression	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-2205-001	Lower Level Plating	Rev 2; Revised after IFC	9/18/03	4/21/04	DRR		NO		Rev 2	DRR		Topside Compression	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-2205-002	Lower Level Plating	Rev 1; Revised after IFC	9/18/03	10/23/04	DRR		NO		Rev 1	DRR		Topside Compression	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-2205-003	Lower Level Plating	Rev 1; Revised after IFC	10/9/03	4/21/04	DRR		NO		Rev 1	DRR		Topside Compression	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-2206-001	Framing Plan at Upper Level NW	Rev 2; AF/AC	10/7/03	12/6/06			NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2206-002	Framing Plan at Upper Level NE	Rev 2; AF/AC	10/7/03	12/6/06			NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2206-003	Framing Plan at Upper Level SW	Rev 2; AF/AC	10/7/03	12/6/06			NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2206-004	Framing Plan at Upper Level SE	Rev 2; AF/AC	10/7/03	12/6/06			NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2211-001	Misc Outfitting Steel	Rev 1; Revised after IFC	11/20/03		MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2211-002	Misc Outfitting Steel	Rev 1; Revised after IFC	11/20/03		MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2211-003	Misc Outfitting Steel	Rev 1; Revised after IFC	11/20/03		MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2211-004	Misc Outfitting Steel	Rev 1; Revised after IFC	11/20/03		MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2212-001	Misc Outfitting Steel	Rev 1; Revised after IFC	1/16/04	5/20/04	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2212-002	Misc Outfitting Steel	Rev 1; Revised after IFC	1/16/04	5/20/04	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2212-003	Misc Outfitting Steel	Rev 1; Revised after IFC	1/16/04	5/20/04	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2212-004	Misc Outfitting Steel	Rev2; AF/AC	1/16/04	12/6/04			NO		Rev 1			Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2215-001	Lower Leve Hatch Details	Rev 1; Revised after IFC	10/15/03	4/21/04	DRR		NO		Rev 1	DRR		Topside Compression	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-2215-002	Lower Leve Hatch Details	Rev 0; IFC	1/13/04	2/9/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-2222-001	Upper Level Plating	Rev 1; Revised after IFC	9/2/03	5/20/04	MCH		NO		Rev 1	MCH		Topside Compression	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-2221-001	Upper Level Plating	Rev 1; Revised after IFC	9/2/03	5/20/04	MCH		NO		Rev 1	MCH		Topside Compression	YES	Daniel R. Ramirez TX 46931	Mustang

MS8-2: Todd Production Inventory (Book 01)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-20-ST-DG-2223-001	Upper Level Plating	Rev 1; Revised after IFC	9/2/03	5/20/04	MCH		NO		Rev 1	MCH		Topside Compression	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-2224-001	Upper Level Plating	Rev 1; Revised after IFC	9/2/03	5/20/04	MCH		NO		Rev 1	MCH		Topside Compression	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-2225-001	Upper Level Plating	Rev 1; Revised after IFC	11/20/03	5/20/04	MCH		NO		Rev 1	MCH		Topside Compression	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-2226-001	Upper Level Plating	Rev2; AF/AC	12/2/03	12/6/06			NO		Rev 1	MCH		Topside Compression	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-2228-001	Upper Level Plating	Rev 1; Revised after IFC	6/28/03	5/20/04	MCH		NO		Rev 1	MCH		Topside Compression	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-2229-001	Launcher/Receiver Skids	Rev 0; IFC	6/28/03	10/19/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-2230-001	Launcher/Receiver Skids	Rev 0; IFC	6/28/03	10/19/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-2231-001	Primary Steel Lower level	Rev 0; IFC	10/17/03	11/6/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2241-001	Monorail Details	Rev 0; IFC	12/4/03	1/12/04			NO		Rev 0			Topside Compression	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-2242-001	Monorail Details	Rev 0; IFC	12/4/03	1/12/04			NO		Rev 0			Topside Compression	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-2243-001	Monorail Details	Rev 1; AF/AC	10/30/03	12/6/06			NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2244-001	Monorail Details	Rev 0; IFC	4/29/04	5/13/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2251-001	Pipe Cassette	Rev 1; AF/AC	12/12/03	12/6/06			NO		Rev 0	MCH		Topside Compression	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-2252-001	Pipe Cassette	Rev 1; AF/AC	12/14/03	12/6/06			NO		Rev 0	MCH		Topside Compression	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-2253-001	Pipe Cassette	Rev 1; AF/AC	12/16/03	12/6/06			NO		Rev 0	MCH		Topside Compression	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-2254-001	Pipe Cassette	Rev 0; IFC	12/18/03	1/21/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-2255-001	Pipe Cassette	Rev 1; AF/AC	12/22/03	12/6/06			NO		Rev 0	MCH		Topside Compression	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-2256-001	Pipe Cassette	Rev 0; IFC	12/24/03	5/21/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-2257-001	Pipe Cassette	Rev 0; IFC	12/31/03	1/21/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-2258-001	Pipe Cassette	Rev 0; IFC	1/5/04	1/21/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-2261-001	Crane Boom Rest Details	Rev 0; IFC	10/31/03	10/19/03	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2271-001	Lower Leve Loading Hose Support	Rev 0; IFC	12/19/03	1/12/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	R.D. Zeplin TX 68767	Mustang
1440-20-ST-DG-2271-002	Lower Leve Loading Hose Support	Rev 0; IFC	12/19/03	1/12/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	R.D. Zeplin TX 68767	Mustang
1440-20-ST-DG-2271-003	Lower Leve Loading Hose Support	Rev 1; Revised after IFC	12/24/03	5/13/04	MCH		NO		Rev 1	MCH		Topside Compression	YES	R.D. Zeplin TX 68767	Mustang

MS8-2: Todd Production Inventory (Book 01)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-20-ST-DG-2281-001	Gylcol Contactor Platform	Rev 0; IFC	4/15/04	5/4/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2282-001	Tote Tank Bumper Wall	Rev 2; Revised after IFC	12/9/03	5/28/04	MCH		NO		Rev 2	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2283-001	Tote Tank Tie Down	Rev 0; IFC	5/21/04	5/28/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2285-001	Camera Supports	Rev 0; AF/AC	6/1/06	12/6/06			NO		Rev 0	MCH		Topside Compression	NO		Mustang
1440-20-ST-DG-2351-001	Stair Key Plan	Rev 0; IFC	2/2/04	3/15/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2352-001	Stair Tower	Rev 0; IFC	12/17/03	2/20/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2353-001	Stair Tower	Rev 0; IFC	12/17/03	2/20/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2354-001	Stair Tower	Rev 1; AF/AC	12/17/03	12/6/06			NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2355-001	Stair Tower	Rev 0; IFC	12/23/03	2/20/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2356-001	Stair Tower	Rev 1; Revised after IFC	1/5/04	5/20/04	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2357-001	Stair Tower	Rev 2; AF/AC	1/6/04	12/6/06			NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2360-001	Skid ZZZ-2000/2100	Rev 0; IFC	4/7/04	4/21/04			NO		Rev 0			Topside Compression	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-2366-001	Crane Access Plaform	Rev 0; IFC	10/6/03	2/23/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2366-002	Crane Access Plaform	Rev 0; IFC	10/7/03	2/23/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2367-001	Access Platform	Rev 1; AF/AC	12/19/03	12/6/06			NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2368-001	Access Platform	Rev 0; IFC	1/5/04	2/23/04			NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2370-001	Access Platform	Rev 1; AF/AC	1/20/04	12/6/06			NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2371-001	Manifold Platform	Rev 0; IFC	1/20/04	2/4/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2374-001	Access Platform	Rev 0; IFC	1/27/04	2/23/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-2375-001	Sling Racks	Rev 0; IFC	10/27/06	1/4/07	FJZ		NO					Topside Compression	YES	F. J. Zwerneman TX 83137	Mustang
1440-20-ST-DG-2401-001	MPS-201	Rev 1; Revised after IFC	2/25/04	4/21/04	MCH		NO		Rev 1	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2402-001	MPS-202	Rev 0; IFC	3/1/04	3/15/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2403-001	MPS-203	Rev 0; IFC	3/1/04	3/15/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2411-001	MPS Misc Details	Rev 0; IFC	3/8/04	3/15/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2421-001	Lower Flowline Support Structure	Rev 0; IFC	5/10/04	5/26/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	Daniel R. Ramirez TX 46931	Mustang

MS8-2: Todd Production Inventory (Book 01)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-20-ST-DG-2422-001	Upper Flowline Support Structure	Rev 0; IFC	5/10/04	5/26/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-2424-001	East & West Porch	Rev 0; IFC	12/19/03	3/22/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	R.D. Zeplin TX 68767	Mustang
1440-20-ST-DG-2461-001	East & West Porch	Rev 0; IFC	5/10/04	5/27/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	R.D. Zeplin TX 68767	Mustang
1440-20-ST-DG-2462-001	Pipe Support Structure	Rev 0; IFC	5/10/04	5/27/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	R.D. Zeplin TX 68767	Mustang
1440-20-ST-DG-2463-001	Pipe Support Structure	Rev 0; IFC	5/10/04	5/27/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	R.D. Zeplin TX 68767	Mustang
1440-20-ST-DG-2464-001	Pipe Support Structure	Rev 0; IFC	5/10/04	5/27/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	R.D. Zeplin TX 68767	Mustang
1440-20-ST-DG-2464-002	Pipe Support Structure	Rev 0; IFC	5/10/04	5/27/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	R.D. Zeplin TX 68767	Mustang
1440-20-ST-DG-2465-001	Pipe Support Structure	Rev 0; IFC	5/10/04	5/27/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	R.D. Zeplin TX 68767	Mustang
1440-20-ST-DG-2466-001	Pipe Support Structure	Rev 0; IFC	5/10/04	5/27/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	R.D. Zeplin TX 68767	Mustang
1440-20-ST-DG-2467-001	Pipe Support Structure	Rev 0; IFC	5/10/04	5/27/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	R.D. Zeplin TX 68767	Mustang
1440-20-ST-DG-2468-001	Pipe Support Structure	Rev 0; IFC	5/10/04	5/28/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	R.D. Zeplin TX 68767	Mustang
1440-20-ST-DG-2468-002	Pipe Support Structure	Rev 0; IFC	5/10/04	5/28/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	R.D. Zeplin TX 68767	Mustang
1440-20-ST-DG-2469-001	Pipe Support Structure	Rev 0; IFC	5/12/04	5/28/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	R.D. Zeplin TX 68767	Mustang
1440-20-ST-DG-2469-002	Pipe Support Structure	Rev 1; Revised after IFC	5/13/04	7/26/04			NO		Rev 1			Topside Compression	YES	R.D. Zeplin TX 68767	Mustang
1440-20-ST-DG-2469-003	Pipe Support Structure	Rev 1; Revised after IFC	5/13/04	7/26/04			NO		Rev 1			Topside Compression	YES	R.D. Zeplin TX 68767	Mustang
1440-20-ST-DG-2469-004	Pipe Support Structure	Rev 0; IFC	5/14/04	5/28/04			NO		Rev 0			Topside Compression	YES	R.D. Zeplin TX 68767	Mustang
1440-20-ST-DG-2469-005	Pipe Support Structure	Rev 1; Revised after IFC	5/14/04	7/26/04			NO		Rev 1			Topside Compression	YES	R.D. Zeplin TX 68767	Mustang
1440-20-ST-DG-2469-006	Pipe Support Structure	Rev 1; Revised after IFC	5/17/04	7/26/04			NO		Rev 1			Topside Compression	YES	R.D. Zeplin TX 68767	Mustang
1440-20-ST-DG-2469-007	Pipe Support Structure	Rev 0; IFC	5/25/04	5/28/04			NO		Rev 0			Topside Compression	YES	R.D. Zeplin TX 68767	Mustang
1440-20-ST-DG-2470-001	Pipe Support Structure	Rev 0; IFC	5/19/04	5/29/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	R.D. Zeplin TX 68767	Mustang
1440-20-ST-DG-2470-002	Pipe Support Structure	Rev 2; AF/AC	5/19/04	12/6/06			NO		Rev 1	JPG		Topside Compression	YES	R.D. Zeplin TX 68767	Mustang
1440-20-ST-DG-2470-003	Pipe Support Structure	Rev 1; Revised after IFC	5/13/04	7/26/04	JPG		NO		Rev 1	JPG		Topside Compression	YES	R.D. Zeplin TX 68767	Mustang
1440-20-ST-DG-2470-004	Pipe Support Structure	Rev 1; Revised after IFC	5/21/04	7/26/04	JPG		NO		Rev 1	JPG		Topside Compression	YES	R.D. Zeplin TX 68767	Mustang
1440-20-ST-DG-2470-005	Pipe Support Structure	Rev 0; IFC	5/21/04	5/27/04	JPG		NO		Rev 0	JPG		Topside Compression	YES	R.D. Zeplin TX 68767	Mustang

MS8-2: Todd Production Inventory (Book 01)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-20-ST-DG-2470-006	Pipe Support Structure	Rev 0; IFC	5/24/04	5/29/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	R.D. Zeplin TX 68767	Mustang
1440-20-ST-DG-2481-001	Bumpers & Guides location	Rev 0; IFC	1/9/04	4/19/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2482-001	Bumpers & Guides location	Rev 0; IFC	1/9/04	4/19/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2482-002	Bumpers & Guides location	Rev 0; IFC	1/9/04	4/19/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2482-003	Bumpers & Guides location	Rev 0; IFC	1/9/04	4/19/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2483-001	Hang off Bollard	Rev 0; IFC	8/20/04	9/10/04	JPG		NO		Rev 0	JPG		Topside Compression	YES	David F. Grimm TX 93067	Mustang
1440-20-ST-DG-2501-001	Module Column to Hull	Rev 0; IFC	11/3/03	2/20/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2601-002	Comp Module Lifting Arrange	Rev 0; IFC	4/3/03	2/18/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-2801-001	Instrument Access	Rev 0; IFC	3/9/04	4/6/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-2802-001	Instrument Access	Rev 0; IFC	3/9/04	4/6/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-2803-001	Instrument Access	Rev 0; IFC	3/31/04	4/28/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-2804-001	Instrument Access	Rev 1; AF/AC	3/22/04	12/6/06			NO		Rev 0	MCH		Topside Compression	YES	Jessie J. Tang TX 87914	Mustang
1440-20-ST-DG-2805-001	Instrument Access	Rev 0; IFC	3/24/04	4/6/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-2806-001	Instrument Access	Rev 0; IFC	3/24/04	4/6/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-2807-001	Instrument Access	Rev 0; IFC	3/18/04	4/28/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-2808-001	Instrument Access	Rev 0; IFC	3/30/04	4/28/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-2809-001	Instrument Access	Rev 0; IFC	5/4/04	5/28/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	Jessie J. Tang TX 87914	Mustang
1440-20-ST-DG-2809-002	Instrument Access	Rev 0; IFC	5/6/04	5/28/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	Jessie J. Tang TX 87914	Mustang
1440-20-ST-DG-2810-001	Instrument Access	Rev 0; IFC	4/20/04	4/28/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-2811-001	Instrument Access	Rev 0; IFC	4/7/04	4/28/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	Jessie J. Tang TX 87914	Mustang
1440-20-ST-DG-2812-001	Instrument Access	Rev 0; IFC	4/15/04	4/28/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	Jessie J. Tang TX 87914	Mustang
1440-20-ST-DG-2813-001	Instrument Access	Rev 0; IFC	4/22/04	4/28/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	Jessie J. Tang TX 87914	Mustang
1440-20-ST-DG-2814-001	Instrument Access	Rev 0; IFC	5/3/04	5/28/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	Jessie J. Tang TX 87914	Mustang
1440-20-ST-DG-2815-001	Instrument Access	Rev 0; IFC	4/26/04	5/28/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	Jessie J. Tang TX 87914	Mustang

MS8-2: Todd Production Inventory (Book 01)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-20-ST-DG-2816-001	Instrument Access	Rev 0; IFC	4/29/04	4/28/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-2816-002	Instrument Access	Rev 0; IFC	5/4/04	5/28/04	MCH		NO		Rev 0	MCH		Topside Compression	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-1700-002	Flare Boom Typical Weld Connection	Rev 2; As-Built	2/14/04	6/30/07			NO		Rev 1	DFG		Topside Flareboom	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1700-003	Flare Boom Typical Weld	Rev 0; IFC	2/14/04	2/20/04	MCH		NO		Rev 0	MCH		Topside Flareboom	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1710-001	Flare Boom Elevation & Details	Rev 1; Revised after IFC	12/10/03	6/30/04	JPG		NO		Rev 1	JPG		Topside Flareboom	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1710-002	Flare Boom Elevation & Details	Rev 1; Revised after IFC	12/11/03	6/30/04	JPG		NO		Rev 1	JPG		Topside Flareboom	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1710-003	Flare Boom Details	Rev 2; As-Built	12/14/03	6/30/07	JPG		NO		Rev 1	DFG		Topside Flareboom	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1710-004	Flare Boom Details	Rev 0; IFC	12/15/03	2/20/04	MCH		NO		Rev 0	MCH		Topside Flareboom	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1710-005	Flare Boom Details	Rev 0; IFC	12/17/03	2/20/04	MCH		NO		Rev 0	MCH		Topside Flareboom	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1710-006	Flare Boom Details	Rev 0; IFC	12/18/03	2/20/04	MCH		NO		Rev 0	MCH		Topside Flareboom	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1710-007	Flare Boom Details	Rev 0; IFC	1/5/04	2/20/04	MCH		NO		Rev 0	MCH		Topside Flareboom	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1710-008	Flare Boom Details	Rev 0; IFC	1/8/04	2/20/04	MCH		NO		Rev 0	MCH		Topside Flareboom	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1700-009	Flare Boom Details	Rev 2; As-Built	1/7/04	6/30/07			NO		Rev 1	DFG		Topside Flareboom	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1700-010	Flare Boom Details	Rev 3; As-Built	12/12/03	6/30/07			NO		Rev 1	DFG		Topside Flareboom	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1700-011	Flare Boom Details	Rev 0; IFC	1/15/04	2/20/04			NO		Rev 0	DFG		Topside Flareboom	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3000-003	Typical Welded Connection Details	Rev 2; Revised after IFC	2/12/03	6/24/03	MCH		NO		Rev 2	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3000-004	Typical Welded Connection Details	Rev 3; Revised after IFC	2/12/03	9/12/03	MCH		NO		Rev 3	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3000-005	Typical Welded Connection Details	Rev 1; Revised after IFC	2/12/03	4/30/03	MCH		NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3000-006	Typical Welded Connection Details	Rev 2; Revised after IFC	2/12/03	6/24/03	MCH		NO		Rev 2	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3000-007	Typical Welded Connection Details	Rev 1; Revised after IFC	2/12/03	4/30/03	MCH		NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3000-008	Typical Handrail Details	Rev 2; Revised after IFC	6/4/03	6/12/04	MCH		NO		Rev 2	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3000-009	Typical Handrail Details	Rev 2; Revised after IFC	6/5/03	6/12/04	DG		NO		Rev 2	DG		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3000-010	Typical Handrail Details	Rev 1; Revised after IFC	6/12/03	10/30/03	MCH		NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3000-011	Typical drain through Details	Rev 1; Revised after IFC	6/12/03	10/30/03	MCH		NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang

MS8-2: Todd Production Inventory (Book 01)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-20-ST-DG-3000-012	Typical Ladder	Rev 0; IFC	2/25/04	3/22/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3000-013	Typical Ladder	Rev 0; IFC	2/23/04	3/22/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3000-014	Typical Ladder	Rev 0; IFC	2/23/04	3/22/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3000-015	Fixed Stair Details	Rev 3; Revised after IFC	12/11/03	1/27/04	MCH		NO		Rev 3	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3000-016	Fixed Stair Details	Rev 1; Revised after IFC	11/21/03	5/27/04	MCH		NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3000-017	Stair Support Frames	Rev 0; IFC	1/22/04	3/22/04	MCH		NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3000-018	Fire & Gas Detection Supports	Rev 0; IFC	2/23/04	3/22/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-3000-019	Typical Misc Details	Rev 2; Revised after IFC	3/17/04	4/30/04	MCH		NO		Rev 2	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3100-001	Gen Module Loading Diagrams	Rev 0; IFC	4/29/03	2/27/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3100-002	Gen Module Loadout	Rev 1; Revised after IFC	3/18/03	2/18/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3101-001	Gen Module Framing Plan	Rev 3; AF/AC	7/19/02	12/6/06			NO		Rev 2	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3102-001	Gen Module Framing Plan	Rev 2; Revised after IFC	7/29/02	9/12/03	MCH		NO		Rev 2	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3103-001	Gen Module Truss Row	Rev 1; Revised after IFC	7/30/02	9/12/03	MCH		NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3103-002	Gen Module Truss Row	Rev 1; Revised after IFC	7/30/02	9/12/03	MCH		NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3103-003	Gen Module Truss Row	Rev 3; Revised after IFC	7/30/02	5/2/06			NO		Rev 1	MCH		Topside Generation	YES	P. A. Skrobarczyk TX 79336	Mustang
1440-20-ST-DG-3103-004	Gen Module Truss Row	Rev 1; Revised after IFC	7/29/02	9/12/03	MCH		NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3103-005	Gen Module Truss Row	Rev 2; Revised after IFC	7/29/02	5/27/04	MCH		NO		Rev 2	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3103-006	Gen Module Truss Row	Rev 1; Revised after IFC	7/30/02	9/12/03	MCH		NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3103-007	Gen Module Truss Row	Rev 1; Revised after IFC	7/30/02	9/12/03	MCH		NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3103-008	Gen Module Truss Row	Rev 1; Revised after IFC	7/30/02	9/12/03	MCH		NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG100		Rev 1; Revised after IFC	6/20/02	6/24/03	MCH		NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG102		Rev 0; IFC	6/20/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG103		Rev 0; IFC	6/20/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG104		Rev 0; IFC	6/20/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang

MS8-2: Todd Production Inventory (Book 01)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-20-ST-DG-3104-PG105		Rev 0; IFC	6/20/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG106		Rev 0; IFC	6/20/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG107		Rev 0; IFC	6/20/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG108		Rev 0; IFC	6/20/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG109		Rev 0; IFC	6/20/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG110		Rev 0; IFC	6/20/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG111		Rev 0; IFC	6/20/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG112		Rev 0; IFC	6/20/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG113		Rev 1; Revised after IFC	6/20/02	6/24/03	MCH		NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG114		Rev 0; IFC	6/20/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG115		Rev 0; IFC	6/20/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG116		Rev 0; IFC	6/20/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG117		Rev 1; Revised after IFC	6/20/02	6/24/03	MCH		NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG118		Rev 0; IFC	6/20/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG119		Rev 0; IFC	6/20/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG120		Rev 0; IFC	6/20/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG121		Rev 0; IFC	6/20/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG122		Rev 0; IFC	6/20/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG123		Rev 0; IFC	6/20/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG124		Rev 0; IFC	6/20/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG125		Rev 1; Revised after IFC	6/21/02	5/20/03	MCH		NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG126		Rev 2; Revised after IFC	6/21/02	5/20/03	MCH		NO		Rev 2	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG130		Rev 0; IFC	7/24/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG131		Rev 0; IFC	7/24/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang

MS8-2: Todd Production Inventory (Book 01)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-20-ST-DG-3104-PG132		Rev 0; IFC	6/20/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG200		Rev 1; Revised after IFC	6/20/02	6/24/03	MCH		NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG201		Rev 0; IFC	6/20/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG202		Rev 0; IFC	6/20/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG203		Rev 0; IFC	6/20/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG204		Rev 0; IFC	6/20/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG205		Rev 0; IFC	6/20/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG206		Rev 0; IFC	6/20/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG207		Rev 1; Revised after IFC	6/20/02	6/24/03	MCH		NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG208		Rev 0; IFC	6/20/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG209		Rev 1; Revised after IFC	6/22/02	6/24/03	MCH		NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG210		Rev 0; IFC	6/20/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG211		Rev 0; IFC	6/20/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG212		Rev 0; IFC	6/20/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG213		Rev 0; IFC	6/20/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG214		Rev 0; IFC	6/20/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG215		Rev 0; IFC	6/20/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG216		Rev 0; IFC	6/20/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG217		Rev 0; IFC	6/20/02	4/30/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG218		Rev 1; Revised after IFC	6/21/02	5/20/03	MCH		NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG219		Rev 2; Revised after IFC	6/21/02	5/20/03	MCH		NO		Rev 2	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG220		Rev 0; IFC	7/25/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG221		Rev 0; IFC	7/25/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG222		Rev 0; IFC	8/28/03	9/10/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang

MS8-2: Todd Production Inventory (Book 01)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-20-ST-DG-3104-PG223		Rev 0; IFC	8/28/03	9/12/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG224		Rev 0; IFC	8/28/03	9/12/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG300		Rev 2; Revised after IFC	7/15/02	9/12/03	MCH		NO		Rev 2	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG301		Rev 2; Revised after IFC	7/15/02	9/12/03	MCH		NO		Rev 2	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG302		Rev 1; Revised after IFC	7/15/02	9/12/03	MCH		NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG303		Rev 2; Revised after IFC	7/15/02	9/12/03	MCH		NO		Rev 2	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG304		Rev 2; Revised after IFC	7/15/02	9/12/03	MCH		NO		Rev 2	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG305		Rev 2; Revised after IFC	7/15/02	9/12/03	MCH		NO		Rev 2	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG306		Rev 2; Revised after IFC	7/15/02	9/12/03	MCH		NO		Rev 2	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG307		Rev 0; IFC	8/20/03	9/12/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3104-PG308		Rev 0; IFC	8/28/03	9/12/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3105-001	Gen Module Primary Steel	Rev 1; Revised after IFC	3/22/06	5/2/04	NP		NO		Rev 1	NP		Topside Generation	YES	P. A. Skrobarczyk TX 79336	Mustang
1440-20-ST-DG-3201-001	Framing Plan at Lower Level	Rev 2; Revised after IFC	9/3/03	5/2/04	MCH		NO		Rev 2	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3201-002	Framing Plan at Lower Level	Rev 1; Revised after IFC	9/3/03	4/28/04	MCH		NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3201-003	Framing Plan at Lower Level	Rev 1; Revised after IFC	9/3/03	8/25/06			NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3201-004	Framing Plan at Lower Level	Rev 2; Revised after IFC	9/3/03	8/25/06	MW		NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3202-001	Misc Framing	Rev 3; Revised after IFC	9/14/03	8/29/06	MW		NO		Rev 2	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3202-002	Misc Framing	Rev 2; Revised after IFC	9/14/03	4/23/04	MCH		NO		Rev 2	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3202-003	Misc Framing	Rev 1; Revised after IFC	12/7/03	5/27/04	MCH		NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3203-001	Equip Support Details	Rev 1; Revised after IFC	9/15/03	1/12/04	DG		NO		Rev 1	DG		Topside Generation	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-3203-002	Equip Support Details	Rev 3; AF/AC	9/15/03	12/6/06			NO		Rev 2	MCH		Topside Generation	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-3203-003	Equip Support Details	Rev 2; Revised after IFC	9/15/03	4/23/04	MCH		NO		Rev 2	MCH		Topside Generation	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-3203-004	Equip Support Details	Rev 2; Revised after IFC	9/7/03	5/27/04	MCH		NO		Rev 2	MCH		Topside Generation	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-3204-001	Lower Level Plating	Rev 2; Revised after IFC	6/12/03	5/20/04	MCH		NO		Rev 2	MCH		Topside Generation	YES	Daniel R. Ramirez TX 46931	Mustang

MS8-2: Todd Production Inventory (Book 01)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-20-ST-DG-3204-002	Lower Level Plating	Rev 1; Revised after IFC	6/12/03	4/28/04	MCH		NO		Rev 2	MCH		Topside Generation	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-3204-003	Lower Level Plating	Rev 3; As-Built	6/12/03	12/6/06			NO		Rev 2	MCH		Topside Generation	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-3204-004	Lower Level Plating	Rev 2; Revised after IFC	6/12/03	8/25/06			NO		Rev 1	MCH		Topside Generation	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-3205-001	Lower Level Plating	Rev 2; AF/AC	10/8/03	12/6/06			NO		Rev 1	MCH		Topside Generation	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-3205-002	Lower Level Plating	Rev 1; Revised after IFC	10/8/03	4/28/04	MCH		NO		Rev 1	MCH		Topside Generation	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-3205-003	Lower Level Plating	Rev 1; Revised after IFC	10/15/03	4/28/04	MCH		NO		Rev 1	MCH		Topside Generation	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-3206-001	Framing Plan at Upper Level NW	Rev 2; AF/AC	11/10/03	12/6/06			NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3206-002	Framing Plan at Upper Level NE	Rev 2; AF/AC	11/10/03	12/6/06			NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3206-003	Framing Plan at Upper Level SW	Rev 2; AF/AC	11/10/03	12/6/06			NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3206-004	Framing Plan at Upper Level SE	Rev 2; AF/AC	11/10/03	12/6/06			NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3211-001	Misc Outfitting Steel	Rev 2; AF/AC	11/5/03	12/6/06			NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3211-002	Misc Outfitting Steel	Rev 2; AF/AC	11/5/03	12/6/06			NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3211-003	Misc Outfitting Steel	Rev 1; Revised after IFC	11/5/03	4/29/04	MCH		NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3211-004	Misc Outfitting Steel	Rev 1; Revised after IFC	11/5/03	4/29/04	MCH		NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3212-001	Misc Outfitting Steel	Rev 2; AF/AC	1/16/04	12/6/06			NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3212-002	Misc Outfitting Steel	Rev 1; Revised after IFC	1/16/04	5/27/04	MCH		NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3212-003	Misc Outfitting Steel	Rev 1; Revised after IFC	1/16/04	5/27/04	MCH		NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3212-004	Misc Outfitting Steel	Rev 2; AF/AC	1/16/04	12/6/06			NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3215-001	Misc Outfitting Steel	Rev 0; IFC	1/9/04	1/12/04	DG		NO		Rev 0	DG		Topside Generation	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-3221-001	Upper Level Plating	Rev 1; Revised after IFC	9/2/03	5/22/04	MCH		NO		Rev 1	MCH		Topside Generation	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-3222-001	Upper Level Plating	Rev 1; Revised after IFC	9/2/03	5/22/04	MCH		NO		Rev 1	MCH		Topside Generation	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-3223-001	Upper Level Plating	Rev 2; Revised after IFC	9/2/03	5/7/08			NO		Rev 1	MCH		Topside Generation	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-3224-001	Upper Level Plating	Rev 2; Revised after IFC	9/2/03	5/27/04	MCH		NO		Rev 1	MCH		Topside Generation	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-3225-001	Upper Level Plating	Rev 0; IFC	12/19/03	1/12/04	DG		NO		Rev 0	DG		Topside Generation	YES	Daniel R. Ramirez TX 46931	Mustang

MS8-2: Todd Production Inventory (Book 01)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-20-ST-DG-3226-001	Upper Level Plating	Rev 0; IFC	1/7/04	1/12/04	DG		NO		Rev 0	DG		Topside Generation	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-3231-001	Upper Level Plating	Rev 0; IFC	10/10/03	11/6/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3250-001	Piperack 1 Iso	Rev 0; IFC	2/17/04	2/27/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3250-002	Piperack 2 Iso	Rev 0; IFC	2/17/04	2/27/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3250-003	Piperack 3 Iso	Rev 0; IFC	2/17/04	2/27/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3251-001	Piperack 1 Plans	Rev 2; AF/AC	2/10/04	12/6/06			NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3251-002	Piperack 1 Plans	Rev 2; AF/AC	2/10/04	12/6/06			NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3251-003	Piperack 1 Plans	Rev 1; Revised after IFC	2/10/04	5/27/04	MCH		NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3251-004	Piperack 1 Plans	Rev 0; IFC	2/10/04	2/27/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3251-005	Piperack 1 Plans	Rev 1; Revised after IFC	2/10/04	5/27/04	MCH		NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3251-006	Piperack 1 Plans	Rev 1; Revised after IFC	2/10/04	5/27/04	MCH		NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3251-007	Piperack 1 Plans	Rev 0; IFC	2/10/04	2/27/04	MCH		NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3251-008	Piperack 1 Plans	Rev 0; IFC	2/10/04	2/27/04	MCH		NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3252-001	Piperack 2 Plans	Rev 1; AF/AC	2/4/04	12/6/06			NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3252-002	Piperack 2 Plans	Rev 1; Revised after IFC	2/4/04				NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3252-003	Piperack 2 Plans	Rev 1; Revised after IFC	2/4/04	5/27/04	MCH		NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3252-004	Piperack 2 Plans	Rev 0; IFC	2/4/04	2/27/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3252-005	Piperack 2 Plans	Rev 0; IFC	2/4/04	2/27/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3252-006	Piperack 2 Plans	Rev 1; Revised after IFC	2/10/04	5/27/04	MCH		NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3252-007	Piperack 2 Plans	Rev 1; Revised after IFC	2/10/04	6/29/04			NO		Rev 1			Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3252-008	Piperack 2 Plans	Rev 0; IFC	2/10/04	2/27/04	MCH		NO		Rev0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang

MS8-3 (Amended) Todd Production Inventory (Book 02)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-20-ST-DG-3253-001	Piperack 3 Plans	Rev 2; AF/AC	2/12/04	12/6/06			NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3253-002	Piperack 3 Plans	Rev 1; Revised after IFC	2/13/04	5/27/04	MCH		NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3253-003	Piperack 3 Plans	Rev 0; IFC	2/13/04	2/27/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3253-004	Piperack 3 Plans	Rev 1; Revised after IFC	2/13/04	5/27/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3253-005	Piperack 3 Plans	Rev 1; Revised after IFC	2/13/04	5/27/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3253-006	Piperack 3 Plans	Rev 2; AF/AC	2/14/04	12/6/06			NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3253-007	Piperack 3 Plans	Rev 0; IFC	2/10/04	2/27/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3254-001	DZZ 8515 Second Floor Platform	Rev 0; IFC	5/11/04	5/28/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3261-001	Crane Boom Rest Details	Rev 1; Revised after IFC	12/22/03	5/27/04	MCH		NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3262-001	Crane Boom Rest Details	Rev 1; Revised after IFC	12/29/03	5/27/04	MCH		NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3271-001	MPS-301	Rev 1; Revised after IFC	4/22/04	8/18/06			NO		Rev 0	MCH		Topside Generation	YES	P.A. Skrobarczyk TX 79336	Mustang
1440-20-ST-DG-3272-001	MPS Misc Details	Rev 0; IFC	3/8/04	5/4/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3284-001	Crane Pedestal Diesel storage	Rev 0; IFC	10/16/03	12/19/03	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3285-001	Camera Supports	Rev 0; AF/AC		12/6/06			NO					Topside Generation	NO		Mustang
1440-20-ST-DG-3351-001	Stair Key Plan	Rev 0; IFC	2/3/04	3/15/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3352-001	Stair Tower	Rev 1; Revised after IFC	1/13/04	5/27/04	MCH		NO		Rev 1	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3353-001	Stair Tower	Rev 0; IFC	1/14/04	5/27/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3354-001	Stair Tower	Rev 0; IFC	1/14/04	3/15/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3355-001	Stair Tower	Rev 1; Revised after IFC	1/15/04	8/25/06	MW		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3356-001	Stair Tower	Rev 1; Revised after IFC	1/15/04	8/25/06	MW		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3357-001	Stair Tower	Rev 0; IFC	1/22/04	3/15/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3366-001	Access Platform	Rev 0; IFC	2/9/04	3/22/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3367-001	Access Platform	Rev 0; IFC	2/9/04	3/22/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3368-001	Access Platform	Rev 1; AF/AC	2/10/04	12/6/06			NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3369-001	Access Platform	Rev 0; IFC	2/12/04	3/22/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3371-001	Access Platform	Rev 0; IFC	2/26/04	3/22/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3372-001	Access Platform	Rev 0; IFC	2/18/04	3/22/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang

MS8-3 (Amended) Todd Production Inventory (Book 02)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-20-ST-DG-3373-001	Access Platform	Rev 0; IFC	2/18/04	3/22/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3374-001	Access Platform	Rev 0; IFC	2/26/04	3/22/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3376-001	Access Platform	Rev 0; IFC	2/19/04	3/22/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3376-002	Access Platform	Rev 1; AF/AC	2/16/04	12/6/06	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3376-003	Access Platform	Rev 0; IFC	2/16/04	3/22/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3376-004	Access Platform	Rev 0; IFC	1/30/09	5/18/09			NO					Topside Generation	YES	Joseph L. Wietzel TX 73644	Mustang
1440-20-ST-DG-3376-005	Access Platform	Rev 0; IFC	1/30/09	5/18/09			NO					Topside Generation	YES	Joseph L. Wietzel TX 73644	Mustang
1440-20-ST-DG-3376-006	Access Platform	Rev 0; IFC	1/30/09	5/18/09			NO					Topside Generation	YES	Joseph L. Wietzel TX 73644	Mustang
1440-20-ST-DG-3377-001	Injection Platform	Rev 0; IFC	1/15/04	2/23/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3378-001	Crane Access Platform	Rev 0; IFC	2/11/04	3/22/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3378-002	Crane Access Platform	Rev 0; IFC	2/26/04	3/22/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3378-003	Crane Access Platform	Rev 0; IFC	2/26/04	3/22/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3379-001	Diesel Storage Access Platform	Rev 0; IFC	3/4/04	3/22/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3401-001	Generator Access	Rev 0; IFC	3/19/04	5/4/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3402-001	Access Platform	Rev 0; IFC	2/6/04	4/29/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3402-002	Access Platform	Rev 0; IFC	2/9/04	4/29/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3402-003	Access Platform	Rev 0; IFC	2/10/04	4/30/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3402-004	Access Platform	Rev 0; IFC	2/16/04	4/30/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3403-001	Access Platform	Rev 0; IFC	2/18/04	4/30/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3403-002	Access Platform	Rev 0; IFC	2/20/04	4/30/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3403-003	Access Platform	Rev 0; IFC	2/20/04	4/30/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3403-004	Access Platform	Rev 0; IFC	2/25/04	4/30/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3404-001	Access Platform	Rev 0; IFC	2/26/04	4/30/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3404-002	Access Platform	Rev 0; IFC	2/27/04	4/30/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3404-003	Access Platform	Rev 0; IFC	3/1/04	4/30/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3404-004	Access Platform	Rev 0; IFC	3/2/04	4/30/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3405-001	WHRU Support	Rev 1; AF/AC	3/1/04	12/6/06			NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang

MS8-3 (Amended) Todd Production Inventory (Book 02)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-20-ST-DG-3405-002	WHRU Support	Rev 1; AF/AC	3/1/04	12/6/06			NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3405-003	WHRU Support	Rev 1; AF/AC	3/1/04	12/6/06			NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3405-004	WHRU Support	Rev 0; IFC	3/1/04	5/4/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3405-005	WHRU Support	Rev 0; IFC	3/1/04	5/4/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3405-006	WHRU Support	Rev 0; IFC	3/1/04	5/4/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3405-007	WHRU Support	Rev 0; IFC	3/1/04	5/4/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3406-001	Access Platform	Rev 0; IFC	3/1/04	5/4/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3407-001	Access Platform	Rev 0; IFC	3/1/04	5/4/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3421-001	Gen Inlet Air Filter Support	Rev 0; IFC	2/20/04	4/15/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3421-002	Gen Inlet Air Filter Support	Rev 0; IFC	2/20/04	4/15/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3421-003	Gen Inlet Air Filter Support	Rev 0; IFC	2/20/04	4/15/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3422-001	Access Platform	Rev 1; AF/AC	3/18/04	12/6/06			NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3423-001	Access Platform	Rev 1; AF/AC	3/22/04	12/6/06			NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3424-001	Access Platform	Rev 1; AF/AC	3/22/04	12/6/06			NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3425-001	Access Platform	Rev 1; AF/AC	3/24/04	12/6/06			NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3432-001	Access Platform	Rev 0; IFC	4/1/04	4/15/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3433-001	Access Platform	Rev 0; IFC	3/30/04	4/15/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3434-001	Access Platform	Rev 0; IFC	3/26/04	4/15/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3480-001	Gen/Prod/Comp Installation	Rev 0; IFC	1/9/04	4/19/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3480-002	Gen/Prod/Comp Installation	Rev 0; IFC	1/9/04	4/19/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3480-003	Gen/Prod/Comp Modules	Rev 0; IFC	1/9/04	4/19/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3480-004	Gen/Prod/Comp Modules	Rev 0; IFC	1/9/04	4/19/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3480-005	Gen/Prod/Comp Modules	Rev 0; IFC	1/14/04	4/19/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3481-001	Bumpers & Guides	Rev 0; IFC	1/9/04	4/19/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3482-001	Bumpers & Guides Details	Rev 0; IFC	1/9/04	4/19/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3482-002	Bumpers & Guides Details	Rev 1; AF/AC	1/9/04	12/6/06			NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3482-003	Bumpers & Guides Details	Rev 0; IFC	1/9/04	4/19/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang

MS8-3 (Amended) Todd Production Inventory (Book 02)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-20-ST-DG-3482-004	Bumpers & Guides Details	Rev 0; IFC	1/9/04	4/19/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3483-001	Hang-off Bollard Details	Rev 0; IFC	8/20/04	9/10/04	DG		NO		Rev 0	DG		Topside Generation	YES	David F. Grimm TX 93067	Mustang
1440-20-ST-DG-3501-001	Module Column to Hull Details	Rev 0; IFC	11/30/03	2/20/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3601-002	Generation Module Lifting	Rev 0; IFC	4/30/03	2/18/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-3801-001	Instrument Access Platform	Rev 0; IFC	5/3/04	5/28/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Jesse J. Tang TX 87914	Mustang
1440-20-ST-DG-3802-001	Instrument Access Platform	Rev 1; AF/AC	5/4/04	12/6/06			NO		Rev 0	MCH		Topside Generation	YES	Jesse J. Tang TX 87914	Mustang
1440-20-ST-DG-3803-001	Instrument Access Platform	Rev 0; IFC	5/5/04	5/28/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Jesse J. Tang TX 87914	Mustang
1440-20-ST-DG-3804-001	Instrument Access Platform	Rev 0; IFC	5/13/04	5/28/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Jesse J. Tang TX 87914	Mustang
1440-20-ST-DG-3804-002	Instrument Access Platform	Rev 0; IFC	5/10/04	5/28/04	MCH		NO		Rev 0	MCH		Topside Generation	YES	Jesse J. Tang TX 87914	Mustang
1440-20-ST-DG-3901-001	Instrument Access Platform	Rev 2; Revised after IFC	3/5/06	8/18/06			NO					Topside Generation	YES	P.A. Skrobarczyk TX 79336	Mustang
1440-20-ST-DG-3901-002	ALQ Support Structure	Rev 0; IFC	3/5/06	5/15/06			NO					Topside Generation	YES	P.A. Skrobarczyk TX 79336	Mustang
1440-20-ST-DG-3901-003	ALQ Support Structure	Rev 1; Revised after IFC	3/5/06	5/18/06			NO					Topside Generation	YES	P.A. Skrobarczyk TX 79336	Mustang
1440-20-ST-DG-3901-004	ALQ Support Structure	Rev 0; IFC	3/5/06	5/18/06			NO					Topside Generation	YES	P.A. Skrobarczyk TX 79336	Mustang
1440-20-ST-DG-3902-001	Sump Tank Access Platform	Rev 1; Revised after IFC	5/5/06	6/7/06			NO					Topside Generation	YES	P.A. Skrobarczyk TX 79336	Mustang
1440-20-ST-DG-3902-002	Sump Tank Access Platform	Rev 0; IFC	3/5/06	5/15/06			NO					Topside Generation	YES	P.A. Skrobarczyk TX 79336	Mustang
1440-20-ST-DG-3902-003	Sump Tank Access Platform	Rev 0; IFC	3/5/06	5/15/06			NO					Topside Generation	YES	P.A. Skrobarczyk TX 79336	Mustang
1440-20-ST-DG-3902-004	Sump Tank Access Platform	Rev 1; Revised after IFC	3/5/06	6/7/06			NO					Topside Generation	YES	P.A. Skrobarczyk TX 79336	Mustang
1440-20-ST-DG-3902-005	Sump Tank Access Platform	Rev 0; IFC	3/5/06	5/15/06			NO					Topside Generation	YES	P.A. Skrobarczyk TX 79336	Mustang
1440-20-ST-DG-3902-006	Sump Tank Access Platform	Rev 0; IFC	5/12/06	5/18/06			NO					Topside Generation	YES	P.A. Skrobarczyk TX 79336	Mustang
1440-20-ST-DG-3903-001	Camera Supports	Rev 0; IFC	7/27/06	8/18/06	IKG		NO					Topside Generation	YES	Ian Karl Glascow TX 92878	Mustang
1440-20-ST-DG-3904-001	Camera Supports	Rev 0; IFC	8/11/06	8/25/06	MW		NO					Topside Generation	YES	Ian Karl Glascow TX 92878	Mustang
1440-20-ST-DG-3904-002	ALQ Screened Walkway	Rev 1; Revised after IFC	8/11/06	9/8/06	MW		NO					Topside Generation	YES	Ian Karl Glascow TX 92878	Mustang
1440-20-ST-DG-3904-003	ALQ Screened Walkway	Rev 1; Revised after IFC	8/11/06	9/8/06	MW		NO					Topside Generation	YES	Ian Karl Glascow TX 92878	Mustang
1440-20-ST-DG-3904-004	ALQ Screened Walkway	Rev 2; Revised after IFC	8/11/06	9/8/06	MW		NO					Topside Generation	YES	Ian Karl Glascow TX 92878	Mustang
1440-20-ST-DG-3904-005	ALQ Screened Walkway	Rev 1; Revised after IFC	8/11/06	9/6/06	MW		NO					Topside Generation	YES	Ian Karl Glascow TX 92878	Mustang
1440-20-ST-DG-3904-006	ALQ Screened Walkway	Rev 0; IFC	8/11/06	8/25/06	MW		NO					Topside Generation	YES	Ian Karl Glascow TX 92878	Mustang
1440-20-ST-DG-3905-001	ALQ Module No. 3	Rev 0; IFC	8/18/06	8/31/06	MW		NO					Topside Generation	YES	P.A. Skrobarczyk TX 79336	Mustang

MS8-3 (Amended) Todd Production Inventory (Book 02)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-20-ST-DG-3905-002	ALQ Module No. 5	Rev 0; IFC	8/18/06	8/31/06	MW		NO					Topside Generation	YES	P.A. Skrobarczyk TX 79336	Mustang
1440-20-ST-DG-3906-001	ALQ Generation Module	Rev A; IFI	7/14/06	8/23/06			NO					Topside Generation			Mustang
1440-20-ST-DG-3906-002	ALQ Elevation	Rev A; IFI	7/14/06	8/23/06			NO					Topside Generation			Mustang
1440-20-ST-DG-3907-001	Push Point Removal Guide	Rev 1; Revised after IFC	10/25/06	11/3/06	FJZ		NO					Topside Generation	YES	Farrel Zwerneman TX 83137	Mustang
1440-20-ST-DG-3908-001	TARP Support Details	Rev 1; Revised after IFC	3/12/09	4/23/09	JLW		NO					Topside Generation	YES	Joseph L. Wietzel TX 73644	Mustang
1440-20-ST-DG-3908-002	TARP Support Details	Rev 1; Revised after IFC	3/12/09	4/23/09	JLW		NO					Topside Generation	YES	Joseph L. Wietzel TX 73644	Mustang
1440-20-ST-DG-1000-003	Typical Weld Connection	Rev 2; Revised after IFC	2/12/03	6/24/03	MCH		NO		Rev 2	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1000-004	Typical Weld Connection	Rev 5; Revised after IFC	2/12/03	11/17/03	MCH		NO		Rev 5	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1000-005	Typical Weld Connection	Rev 1; Revised after IFC	2/12/03	4/30/03	MCH		NO		Rev 1	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1000-006	Typical Weld Connection	Rev 2; Revised after IFC	2/12/03	6/24/03	MCH		NO		Rev 1	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1000-007	Typical Weld Connection	Rev 1; Revised after IFC	2/12/03	4/30/03	MCH		NO		Rev 1	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1000-008	Typical Handrail Details	Rev 3; Revised after IFC	6/4/03	2/4/04	MCH		NO		Rev 3	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1000-009	Typical Handrail Details	Rev 2; Revised after IFC	6/5/03	11/9/03	DRR		NO		Rev 2	DRR		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1000-010	Typical Drain Trough Details	Rev 0; IFC	6/12/03	8/5/03	MCH		NO		Rev 0	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1000-011	Typical Drain Trough Details	Rev 2; Revised after IFC	6/12/03	3/1/04	MCH		NO		Rev 2	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1000-012	Typical Drain Trough Details	Rev 0; IFC	9/26/03	2/4/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1000-013	Typical Ladder Details	Rev 0; IFC	9/26/03	2/4/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1000-014	Typical ladder Details	Rev 0; IFC	10/6/03	2/4/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1000-015	Fixed Stair Details	Rev 4; AF/AC	12/11/03	12/6/06			NO		Rev 3	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1000-016	Fixed Stair Details	Rev 2; Revised after IFC	11/21/03	5/15/04	DRR		NO		Rev 2	DRR		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1000-017	Stair Support Frames	Rev 0; IFC	1/22/04	3/22/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1000-018	Fire & Gas Det Supports	Rev 0; IFC	2/16/04	2/23/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1000-019	Typical Misc Details	Rev 0; IFC	3/23/04	4/8/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1000-020	Production Module Index	Rev 0; IFC	8/25/08	7/16/09	MCH		NO					Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1100-001	Production Module Loading	Rev 0; IFC	4/29/03	2/27/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1100-002	Production Module Loadout	Rev 1; Revised after IFC	3/31/03	2/18/04	MCH		NO		Rev 1	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1101-001	Production Module Framing	Rev 6; AF/AC	8/7/02				NO		Rev 4	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang

MS8-3 (Amended) Todd Production Inventory (Book 02)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-20-ST-DG-1102-001	Production Module Framing	Rev 4; Revised after IFC	8/7/02	6/1/05	JWF		NO		Rev 3	DRR		Topside Production	YES	P.A. Skrobarczyk TX 79336	Mustang
1440-20-ST-DG-1103-001	Production Module Truss	Rev 5; AF/AC	8/7/02	12/6/06			NO		Rev 3	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1103-002	Production Module Truss	Rev 2; Revised after IFC	8/7/02	11/25/03	MCH		NO		Rev 2	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1103-003	Production Module Truss	Rev 4; AF/AC	8/7/02	12/6/06			NO		Rev 3	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1103-004	Production Module Truss	Rev 2; Revised after IFC	8/6/02	8/22/03	MCH		NO		Rev 2	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1103-005	Production Module Truss	Rev 2; Revised after IFC	8/6/02	8/22/03	MCH		NO		Rev 2	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1103-006	Production Module Truss	Rev 2; Revised after IFC	8/6/02	11/25/03	MCH		NO		Rev 2	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1103-007	Production Module Truss	Rev 3; Revised after IFC	8/6/02	11/18/05	JWF		NO		Rev 2	MCH		Topside Production	YES	P.A. Skrobarczyk TX 79336	Mustang
1440-20-ST-DG-1103-008	Production Module Truss	Rev 3; Revised after IFC	8/6/02	11/18/05	JWF		NO		Rev 2	MCH		Topside Production	YES	P.A. Skrobarczyk TX 79336	Mustang
1440-20-ST-DG-1103-009	Production Module Truss	Rev 3; Revised after IFC	8/6/02	11/25/05	MCH		NO		Rev 2	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1103-010	Production Module Truss	Rev 2; Revised after IFC	8/6/02	11/25/03	MCH		NO		Rev 2	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1103-011	Production Module Truss	Rev 2; AF/AC	10/16/02	12/6/06			NO		Rev 1	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG100		Rev 0; IFC	6/21/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG101		Rev 0; IFC	6/21/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG102		Rev 0; IFC	6/21/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG103		Rev 0; IFC	6/21/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG104		Rev 0; IFC	6/21/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG105		Rev 0; IFC	6/21/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG106		Rev 0; IFC	6/21/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG107		Rev 0; IFC	6/21/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG108		Rev 0; IFC	6/21/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG109		Rev 0; IFC	6/21/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG110		Rev 0; IFC	6/21/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG111		Rev 0; IFC	6/21/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG112		Rev 0; IFC	6/21/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG113		Rev 0; IFC	6/21/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG114		Rev 0; IFC	6/21/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang

MS8-3 (Amended) Todd Production Inventory (Book 02)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-20-ST-DG-1104-PG115		Rev 1; Revised after IFC	6/21/02	6/24/03	MCH		NO		Rev 1	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG116		Rev 1; Revised after IFC	6/21/02	6/24/03	MCH		NO		Rev 1	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG117		Rev 0; IFC	6/21/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG118		Rev 0; IFC	6/21/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG119		Rev 0; IFC	6/21/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG120		Rev 0; IFC	6/21/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG121		Rev 0; IFC	6/21/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG122		Rev 0; IFC	6/21/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG123		Rev 0; IFC	6/21/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG124		Rev 0; IFC	6/21/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG125		Rev 3; Revised after IFC	6/21/02	8/22/03	MCH		NO		Rev 3	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG126		Rev 0; IFC	6/21/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG127		Rev 2; Revised after IFC	6/21/02	5/20/03	MCH		NO		Rev 2	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG128		Rev 0; IFC	7/23/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG130		Rev 0; IFC	7/23/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG200		Rev 1; Revised after IFC	6/20/02	4/30/03	MCH		NO		Rev 1	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG201		Rev 0; IFC	6/20/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG202		Rev 0; IFC	6/20/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG203		Rev 0; IFC	6/20/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG204		Rev 2; Revised after IFC	6/20/02	8/22/03	MCH		NO		Rev 2	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG205		Rev 0; IFC	6/20/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG206		Rev 1; Revised after IFC	6/20/02	3/30/03	MCH		NO		Rev 1	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG207		Rev 0; IFC	6/20/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG208		Rev 1; Revised after IFC	6/20/02	3/30/03	MCH		NO		Rev 1	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG209		Rev 0; IFC	6/20/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG210		Rev 0; IFC	6/20/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG211		Rev 0; IFC	6/20/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang

MS8-3 (Amended) Todd Production Inventory (Book 02)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-20-ST-DG-1104-PG212		Rev 0; IFC	6/21/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG213		Rev 1; Revised after IFC	6/21/02	8/22/03	MCH		NO		Rev 1	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG214		Rev 0; IFC	6/21/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG215		Rev 1; Revised after IFC	6/21/02	8/22/03	MCH		NO		Rev 1	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG217		Rev 0; IFC	6/21/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG218		Rev 0; IFC	6/21/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG219		Rev 0; IFC	6/21/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG220		Rev 0; IFC	6/21/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG221		Rev 1; Revised after IFC	6/21/02	8/22/03	MCH		NO		Rev 1	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG222		Rev 0; IFC	6/21/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG223		Rev 0; IFC	6/21/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG224		Rev 0; IFC	6/21/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG225		Rev 0; IFC	6/20/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG226		Rev 0; IFC	7/24/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG227		Rev 0; IFC	10/9/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG228		Rev 0; IFC	10/9/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG229		Rev 0; IFC	10/13/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG230		Rev 0; IFC	8/13/03	8/22/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG231		Rev 0; IFC	8/13/03	8/22/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG232		Rev 0; IFC	8/13/03	8/22/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG300		Rev 1; Revised after IFC	6/20/02	4/30/03	MCH		NO		Rev 1	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG301		Rev 0; IFC	6/20/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG302		Rev 0; IFC	6/20/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG303		Rev 0; IFC	6/20/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG304		Rev 1; Revised after IFC	6/21/02	4/30/03	MCH		NO		Rev 1	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG305		Rev 0; IFC	6/20/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG306		Rev 1; Revised after IFC	6/20/02	8/22/03	MCH		NO		Rev 1	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang

MS8-3 (Amended) Todd Production Inventory (Book 02)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-20-ST-DG-1104-PG307		Rev 1; Revised after IFC	6/20/02	8/22/03	MCH		NO		Rev 1	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG308		Rev 1; Revised after IFC	6/20/02	11/25/03	MCH		NO		Rev 1	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG309		Rev 1; Revised after IFC	6/20/02	8/22/03	MCH		NO		Rev 1	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG310		Rev 0; IFC	6/20/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG311		Rev 0; IFC	7/25/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG313		Rev 0; IFC	6/21/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG314		Rev 0; IFC	6/21/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG315		Rev 1; Revised after IFC	6/21/02	8/22/03	MCH		NO		Rev 1	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG316		Rev 0; IFC	6/21/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG317		Rev 0; IFC	6/21/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG318		Rev 0; IFC	6/21/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG319		Rev 0; IFC	6/21/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG320		Rev 0; IFC	6/21/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG321		Rev 0; IFC	6/20/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG322		Rev 3; Revised after IFC	6/21/02	8/22/03	MCH		NO		Rev 3	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG323		Rev 3; Revised after IFC	6/21/02	5/20/03	MCH		NO		Rev 3	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG324		Rev 0; IFC	6/20/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG325		Rev 0; IFC	7/18/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG326		Rev 0; IFC	7/24/02	3/31/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG327		Rev 1; Revised after IFC	10/13/02	3/30/03	MCH		NO		Rev 1	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG328		Rev 0; IFC	8/13/03	8/22/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG329		Rev 0; IFC	8/13/03	8/22/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1104-PG330		Rev 0; IFC	8/13/03	8/22/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1201-001	Framing Plan at Lower Level	Rev 3; Revised after IFC	9/9/03	2/9/04			NO		Rev 3			Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1201-002	Framing Plan at Lower Level	Rev 2; Revised after IFC	9/9/03	4/9/04	MCH		NO		Rev 2	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1201-003	Framing Plan at Lower Level	Rev 4; AF/AC	9/8/03	12/6/06			NO		Rev 3			Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1201-004	Framing Plan at Lower Level	Rev 4; AF/AC	9/8/03	6/21/08			NO		Rev 2	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang

MS8-3 (Amended) Todd Production Inventory (Book 02)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-20-ST-DG-1202-001	Framing Plan at Lower Level	Rev 2; Revised after IFC	9/9/03	6/21/08			NO		Rev 1	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1202-002	Misc Framing Sections	Rev 3; AF/AC	9/9/03	12/6/06			NO		Rev 2	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1202-003	Misc Framing Sections	Rev 0; IFC	9/22/03	11/30/03	MCH		NO		Rev 0	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1202-004	Misc Framing Sections	Rev 2; AF/AC	10/28/03	12/6/06			NO		Rev 1	DRR		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1203-001	Equipment Support Details	Rev 2; Revised after IFC	9/9/03	12/5/03	MCH		NO		Rev 2	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1203-002	Equipment Support Details	Rev 2; Revised after IFC	9/9/03	4/14/04	MCH		NO		Rev 2	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1203-003	Equipment Support Details	Rev 3; Revised after IFC	10/2/03	5/13/04	DRR		NO		Rev 3	DRR		Topside Production	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-1203-004	Equipment Support Details	Rev 1; Revised after IFC	9/25/03	1/12/04			NO		Rev 1			Topside Production	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-1203-005	Equipment Support Details	Rev 1; Revised after IFC	10/20/03	4/15/04	MCH		NO		Rev 1	MCH		Topside Production	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-1203-006	Equipment Support Details	Rev 1; Revised after IFC	11/17/03	5/13/04	DRR		NO		Rev 1	DRR		Topside Production	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-1203-007	Equipment Support Details	Rev 0; IFC	11/17/03	12/9/03	DRR		NO		Rev 0	DRR		Topside Production	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-1203-008	Equipment Support Details	Rev 0; IFC	11/17/03	12/9/03	DRR		NO		Rev 0	DRR		Topside Production	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-1204-001	Lower Leve Plating	Rev 4; AF/AC	6/17/03	2/1/09			NO		Rev 2	DRR		Topside Production	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-1204-002	Lower Leve Plating	Rev 2; Revised after IFC	6/16/03	4/14/04	DRR		NO		Rev 2	DRR		Topside Production	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-1204-003	Lower Leve Plating	Rev 4; AF/AC	6/16/03				NO		Rev 2	DRR		Topside Production	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-1204-004	Lower Leve Plating	Rev 4; AF/AC	6/18/03	6/21/08			NO		Rev 2	DRR		Topside Production	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-1205-001	Lower Leve Plating	Rev 2; Revised after IFC	9/11/03	4/14/04	DRR		NO		Rev 2	DRR		Topside Production	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-1205-002	Lower Leve Plating	Rev 2; Revised after IFC	9/11/03	4/14/04	DRR		NO		Rev 2	DRR		Topside Production	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-1205-003	Lower Leve Plating	Rev 3; AF	9/16/03	7/1/08			NO		Rev 1	DRR		Topside Production	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-1205-004	Lower Leve Plating	Rev 0; IFC	4/11/04	4/14/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-1206-001	Framing Plan at Upper Level	Rev 2; AF/AC	9/19/03	12/6/06			NO		Rev 1	DRR		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1206-002	Framing Plan at Upper Level	Rev 3; AF	9/19/03	12/6/06			NO		Rev 1	DRR		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1206-003	Framing Plan at Upper Level	Rev 2; AF/AC	9/18/03	12/6/06			NO		Rev 1	DRR		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1206-004	Framing Plan at Upper Level	Rev 3; AF	9/18/03	12/6/06	DAH		NO		Rev 1	DRR		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1211-001	Misc Outfitting Steel	Rev 2; AF/AC	11/11/03	12/6/06			NO		Rev 1	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1211-002	Misc Outfitting Steel	Rev 2; AF/AC	11/11/03	12/6/06			NO		Rev 1	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1211-003	Misc Outfitting Steel	Rev 2; AF/AC	11/11/03	12/6/06			NO		Rev 1	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang

MS8-3 (Amended) Todd Production Inventory (Book 02)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-20-ST-DG-1211-004	Misc Outfitting Steel	Rev 1; Revised after IFC	11/11/03	5/24/04	MCH		NO		Rev 1	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1212-001	Misc Outfitting Steel	Rev 2; AF/AC	12/1/03	12/6/06			NO		Rev 1	DRR		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1212-002	Misc Outfitting Steel	Rev 2; Revised after IFC	12/1/03	6/28/05			NO		Rev 2			Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1212-003	Misc Outfitting Steel	Rev 1; Revised after IFC	12/1/03	4/13/04	DRR		NO		Rev 1	DRR		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1212-004	Misc Outfitting Steel	Rev 2; Revised after IFC	12/1/03				NO		Rev 1			Topside Production	YES	P.A. Skrobarczyk TX 79336	Mustang
1440-20-ST-DG-1215-001	Lower Level Hatch Details	Rev 0; IFC	9/30/03	10/7/03	MCH		NO		Rev 0	MCH		Topside Production	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-1215-002	Lower Level Hatch Details	Rev 0; IFC	1/8/04	2/9/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-1216-001	Upper Level Hatch Details	Rev 1; Revised after IFC	11/13/03	11/13/04	DRR		NO		Rev 1	DRR		Topside Production	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-1221-001	Upper Leve Plating	Rev 1; Revised after IFC	9/2/03	5/13/04	DRR		NO		Rev 1	DRR		Topside Production	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-1222-001	Upper Leve Plating	Rev 1; Revised after IFC	9/2/03	5/13/04	DRR		NO		Rev 1	DRR		Topside Production	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-1223-001	Upper Leve Plating	Rev 1; Revised after IFC	9/2/03	5/13/04	DRR		NO		Rev 1	DRR		Topside Production	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-1224-001	Upper Leve Plating	Rev 1; Revised after IFC	9/2/03	5/13/04	DRR		NO		Rev 1	DRR		Topside Production	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-1225-001	Upper Leve Plating	Rev 1; Revised after IFC	10/24/03	5/13/04	DRR		NO		Rev 1	DRR		Topside Production	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-1226-001	Upper Leve Plating	Rev 2; AF/AC	12/2/03	12/6/06			NO		Rev 1	DRR		Topside Production	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-1227-001	Gen Temporary laydown area	Rev 0; IFC	4/22/04	4/29/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1231-001	Primary Steel Lower Level	Rev 0; IFC	10/15/03	11/6/03	MCH		NO		Rev 0	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1241-001	Primary Steel Lower Level	Rev 0; IFC	10/9/03	12/12/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1242-001	Monorail Details	Rev 0; IFC	10/10/03	12/19/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1243-001	Monorail Details	Rev 0; IFC	10/10/03	12/18/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1244-001	Monorail Details	Rev 0; IFC	10/10/03	4/21/04	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1251-001	Pipe Cassette	Rev 1; Revised after IFC	11/12/03	6/21/04	MCH		NO		Rev 1	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1252-001	Pipe Cassette	Rev 1; Revised after IFC	11/12/03	6/21/04	MCH		NO		Rev 1	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1253-001	Pipe Cassette	Rev 1; Revised after IFC	11/12/03	6/21/04	MCH		NO		Rev 1	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1254-001	Pipe Cassette	Rev 1; Revised after IFC	11/12/03	6/21/04	MCH		NO		Rev 1	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1255-001	Pipe Cassette	Rev 1; Revised after IFC	11/12/03	6/21/04	MCH		NO		Rev 1	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1256-001	Pipe Cassette	Rev 1; Revised after IFC	11/12/03	6/21/04	MCH		NO		Rev 1	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1257-001	Pipe Cassette	Rev 1; Revised after IFC	11/17/03	6/21/04	MCH		NO		Rev 1	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang

MS8-3 (Amended) Todd Production Inventory (Book 02)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-20-ST-DG-1258-001	Pipe Cassette	Rev 0; IFC	11/12/03	11/21/03	MCH		NO		Rev 0	MCH		Topside Production	YES	David R. Linscott LA 21363	Mustang
1440-20-ST-DG-1261-001	Crane Boom Rest Details	Rev 0; IFC	10/21/03	12/19/03	MCH		NO		Rev 0	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1262-001	Crane Boom Rest Details	Rev 0; IFC	10/21/03	12/19/03	MCH		NO		Rev 0	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1271-001	Lower Level Loading Hose	Rev 0; IFC	11/26/03	12/18/03	MCH		NO		Rev 0	MCH		Topside Production	YES	Ricky D. Zeplin TX 68767	Mustang
1440-20-ST-DG-1271-002	Lower Level Loading Hose	Rev 1; Revised after IFC	11/26/03	1/17/04	DRR		NO		Rev 1	DRR		Topside Production	YES	Ricky D. Zeplin TX 68767	Mustang
1440-20-ST-DG-1281-001	Lower Level Loading Hose	Rev 0; IFC	5/19/04	5/23/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1282-001	Tote Tank Bumper Wall	Rev 1; Revised after IFC	10/14/03	1/13/04	DRR		NO		Rev 1	DRR		Topside Production	YES	Ricky D. Zeplin TX 68767	Mustang
1440-20-ST-DG-1283-001	Tote Tank Hose Rack	Rev 0; IFC	4/14/04	4/21/04	DRR		NO		Rev 0	DRR		Topside Production	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-1285-001	Camera Supports	Rev 0; AF/AC	6/1/05	12/6/06			NO					Topside Production	NO		Mustang
1440-20-ST-DG-1351-001	Stair Key Plan	Rev 0; IFC	2/27/04	3/12/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-1352-001	North Stair Tower	Rev 2; Revised after IFC	12/5/03	2/9/09			NO		Rev 1	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1353-001	North Stair Tower	Rev 1; Revised after IFC	10/9/03	5/13/04	DRR		NO		Rev 1	DRR		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1354-001	North Stair Tower	Rev 0; IFC	10/9/03	12/9/03	MCH		NO		Rev 0	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1355-001	North Stair Tower	Rev 1; Revised after IFC	10/9/03	2/1/05			NO		Rev 1			Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1356-001	North Stair Tower	Rev 1; Revised after IFC	10/9/03	2/1/05			NO		Rev 1			Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1357-001	North Stair Tower	Rev 2; Revised after IFC	10/9/03	2/1/05			NO		Rev 2			Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1360-001	South Stair Tower	Rev 2; AF/AC	11/12/03	12/6/06			NO		Rev 1	DRR		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1361-001	South Stair Tower	Rev 1; Revised after IFC	11/12/03	11/23/04	DRR		NO		Rev 1	DRR		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1362-001	South Stair Tower	Rev 1; AF/AC	12/3/03	12/6/06			NO		Rev 0	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1363-001	South Stair Tower	Rev 1; Revised after IFC	12/9/03	5/23/04	DRR		NO		Rev 1	DRR		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1364-001	South Stair Tower	Rev 0; IFC	12/11/03	1/27/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1365-001	South Stair Tower	Rev 1; AF/AC	12/11/03	12/6/06			NO		Rev 0	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1374-001	South Stair Tower	Rev 0; IFC	10/14/03	2/23/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1374-002	South Stair Tower	Rev 0; IFC	9/17/03	2/23/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1375-001	Access Platform	Rev 1; Revised after IFC	12/17/03	12/6/06			NO		Rev 0	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1375-002	Access Platform	Rev 0; IFC	11/27/06	12/6/06			NO					Topside Production	YES	Farrel Zwerneman TX 83137	Mustang
1440-20-ST-DG-1376-001	Access Platform	Rev 1; Revised after IFC	1/20/04	12/6/06			NO		Rev 0	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang

MS8-3 (Amended) Todd Production Inventory (Book 02)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-20-ST-DG-1376-002	Access Platform	Rev 1; Revised after IFC	11/27/06	12/6/06			NO					Topside Production	YES	Farrel Zwerneman TX 83137	Mustang
1440-20-ST-DG-1377-001	Access Platform	Rev 0; IFC	12/11/03	2/4/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1378-001	Access Platform	Rev 1; AF/AC	12/21/03	12/6/06			NO		Rev 0	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1379-001	Access Platform	Rev 0; IFC	1/13/04	2/23/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1380-001	Access Platform	Rev 0; IFC	1/13/04	2/23/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1381-001	Access Platform	Rev 1; Revised after IFC	1/10/04	5/13/04	DRR		NO		Rev 1	DRR		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1382-001	Access Platform	Rev 0; IFC	1/10/04	2/23/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1383-001	Access Platform	Rev 2; AF/AC	1/10/04	12/6/06			NO		Rev 1	DRR		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1384-001	Access Platform	Rev 1; Revised after IFC	1/10/04	5/13/04			NO		Rev 1	DRR		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1385-001	Intermediate Stair Landing	Rev 0; IFC	1/9/04	2/18/04			NO		Rev 0	DRR		Topside Production	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-1386-001	Flare Piping Access Platform	Rev 0; IFC	2/9/04	3/3/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Ricky D. Zeplin TX 68767	Mustang
1440-20-ST-DG-1387-001	Flare Piping Access Platform	Rev 0; IFC	2/9/04	3/3/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Ricky D. Zeplin TX 68767	Mustang
1440-20-ST-DG-1389-001	Flare Piping Access Platform	Rev 0; IFC	2/9/04	3/3/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Ricky D. Zeplin TX 68767	Mustang
1440-20-ST-DG-1390-001	Flare Piping Access Platform	Rev 0; IFC	2/9/04	3/3/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Ricky D. Zeplin TX 68767	Mustang
1440-20-ST-DG-1391-001	Flare Piping Access Platform	Rev 0; IFC	2/9/04	3/3/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Ricky D. Zeplin TX 68767	Mustang
1440-20-ST-DG-1392-001	Hull Access Platform	Rev 0; AF/AC	6/22/05	12/6/06			NO					Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1401-001	MPS-101	Rev 0; IFC	1/29/04	2/23/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1402-001	MPS-102	Rev 1; Revised after IFC	2/3/04	4/1/04	MCH		NO		Rev 1	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1403-001	MPS-103	Rev 1; Revised after IFC	2/6/04	4/14/04	MCH		NO		Rev 1	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1404-001	MPS-104	Rev 1; AF/AC	4/28/04	12/6/06			NO		Rev 0	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1411-001	MPS Misc Details	Rev 0; IFC	2/20/04	2/23/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1461-001	Pipe Monorail Support	Rev 0; IFC	12/9/03	2/4/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Ricky D. Zeplin TX 68767	Mustang
1440-20-ST-DG-1462-001	Pipe Monorail Support	Rev 0; IFC	12/9/03	2/4/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Ricky D. Zeplin TX 68767	Mustang
1440-20-ST-DG-1463-001	Pipe Monorail Support	Rev 0; IFC	12/9/03	2/4/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Ricky D. Zeplin TX 68767	Mustang
1440-20-ST-DG-1464-001	Pipe Support Structure	Rev 0; IFC	3/9/04	3/22/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Ricky D. Zeplin TX 68767	Mustang
1440-20-ST-DG-1465-001	Pipe Support Structure	Rev 0; IFC	3/10/04	3/22/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Ricky D. Zeplin TX 68767	Mustang
1440-20-ST-DG-1466-001	Pipe Support Structure	Rev 1; Revised after IFC	3/10/04	5/13/04	RDZ		NO		Rev 1	RDZ		Topside Production	YES	Ricky D. Zeplin TX 68767	Mustang

MS8-3 (Amended) Todd Production Inventory (Book 02)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-20-ST-DG-1467-001	Pipe Support Structure	Rev 0; IFC	3/11/04	3/22/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Ricky D. Zeplin TX 68767	Mustang
1440-20-ST-DG-1468-001	Pipe Support Structure	Rev 1; Revised after IFC	3/14/04	5/13/04	RDZ		NO		Rev 1	RDZ		Topside Production	YES	Ricky D. Zeplin TX 68767	Mustang
1440-20-ST-DG-1469-001	Pipe Support Structure	Rev 0; IFC	3/14/04	3/22/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Ricky D. Zeplin TX 68767	Mustang
1440-20-ST-DG-1470-001	Pipe Support Structure	Rev 0; IFC	3/15/04	3/22/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Ricky D. Zeplin TX 68767	Mustang
1440-20-ST-DG-1471-001	Pipe Support Structure	Rev 1; Revised after IFC	3/16/04	5/13/04	RDZ		NO		Rev 1	RDZ		Topside Production	YES	Ricky D. Zeplin TX 68767	Mustang
1440-20-ST-DG-1472-001	Pipe Support Structure	Rev 0; IFC	3/16/04	3/22/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Ricky D. Zeplin TX 68767	Mustang
1440-20-ST-DG-1473-001	Pipe Support Structure	Rev 1; Revised after IFC	3/15/04	5/13/04	RDZ		NO		Rev 1	RDZ		Topside Production	YES	Ricky D. Zeplin TX 68767	Mustang
1440-20-ST-DG-1475-001	Cooler Platform HGB	Rev 1; As-Built	10/31/05	1/25/07			NO					Topside Production	YES	P.A. Skrobarczyk TX 79336	Mustang
1440-20-ST-DG-1475-002	Cooler Platform HGB	Rev 1; Revised after IFC	10/31/05	1/8/06			NO					Topside Production	YES	P.A. Skrobarczyk TX 79336	Mustang
1440-20-ST-DG-1475-003	Cooler Platform HGB	Rev 0; IFC	10/31/05	11/8/05			NO					Topside Production	YES	P.A. Skrobarczyk TX 79336	Mustang
1440-20-ST-DG-1475-004	Cooler Platform HGB	Rev 0; IFC	10/31/05	11/8/05			NO					Topside Production	YES	P.A. Skrobarczyk TX 79336	Mustang
1440-20-ST-DG-1476-001	Cooler Platform HGB	Rev 1; Revised after IFC	10/31/05	1/13/06			NO					Topside Production	YES	P.A. Skrobarczyk TX 79336	Mustang
1440-20-ST-DG-1476-002	Cooler Platform HGB	Rev 0; IFC	10/31/05	11/8/05			NO					Topside Production	YES	P.A. Skrobarczyk TX 79336	Mustang
1440-20-ST-DG-1476-003	Cooler Platform HGB	Rev 1; Revised after IFC	10/31/05	1/13/06			NO					Topside Production	YES	P.A. Skrobarczyk TX 79336	Mustang
1440-20-ST-DG-1476-004	Cooler Platform HGB	Rev 0; IFC	10/31/05	11/8/05			NO					Topside Production	YES	P.A. Skrobarczyk TX 79336	Mustang
1440-20-ST-DG-1476-005	Cooler Platform HGB	Rev 0; IFC	10/31/05	11/8/05			NO					Topside Production	YES	P.A. Skrobarczyk TX 79336	Mustang
1440-20-ST-DG-1477-001	Cooler Platform HGB	Rev 0; IFC	11/7/05	11/10/05	JWF		NO					Topside Production	YES	P.A. Skrobarczyk TX 79336	Mustang
1440-20-ST-DG-1477-002	Cooler Platform HGB	Rev 0; IFC	11/7/05	11/10/05	JWF		NO					Topside Production	YES	P.A. Skrobarczyk TX 79336	Mustang
1440-20-ST-DG-1481-001	Bumpers & Guides Plan	Rev 1; AF/AC	1/9/04	12/6/06			NO		Rev 0	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1482-001	Bumpers & Guides Details	Rev 0; IFC	1/9/04	4/19/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1482-002	Bumpers & Guides Details	Rev 0; IFC	1/9/04	4/19/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1482-003	Bumpers & Guides Details	Rev 1; AF/AC	1/9/04	12/6/06			NO		Rev 0	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1482-004	Bumpers & Guides Details	Rev 1; Revised after IFC	1/9/04	5/13/04	MCH		NO		Rev 1	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1482-006	Bumpers & Guides Details	Rev 1; AF/AC	1/9/04	12/6/06			NO		Rev 0	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1483-001	Hang-off Bollard Details	Rev 0; IFC	8/20/04	9/10/04			NO		Rev 0			Topside Production	YES	David F. Grimm TX 93067	Mustang
1440-20-ST-DG-1501-001	Module Column to Hull Details	Rev 0; IFC	11/3/03	2/20/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang
1440-20-ST-DG-1601-002	Prod Module Lifting Arrangement	Rev 0; IFC	3/19/03	2/18/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Mark C. Howarth TX 53771	Mustang

MS8-3 (Amended) Todd Production Inventory (Book 02)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-20-ST-DG-1602-001	Prod Module Lifting Arrangement	Rev 1; Revised after IFC	3/5/04	5/13/04	DRR		NO		Rev 1	DRR		Topside Production	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-1603-001	Module Integration Details	Rev 1; AF/AC	3/10/04	12/6/06			NO		Rev 0	MCH		Topside Production	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-1604-001	Module Integration Details	Rev 1; AF/AC	3/10/04	12/6/06			NO		Rev 0	MCH		Topside Production	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-1801-001	Instrument Access Platform	Rev 0; IFC	4/30/04	5/27/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Ricky D. Zeplin TX 68767	Mustang
1440-20-ST-DG-1801-002	Instrument Access Platform	Rev 0; IFC	5/4/04	5/27/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Ricky D. Zeplin TX 68767	Mustang
1440-20-ST-DG-1802-001	Instrument Access Platform	Rev 0; IFC	5/5/04	5/27/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Ricky D. Zeplin TX 68767	Mustang
1440-20-ST-DG-1802-002	Instrument Access Platform	Rev 0; IFC	5/6/04	5/27/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Ricky D. Zeplin TX 68767	Mustang
1440-20-ST-DG-1803-001	Instrument Access Platform	Rev 0; IFC	3/3/04	4/8/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Ricky D. Zeplin TX 68767	Mustang
1440-20-ST-DG-1804-001	Instrument Access Platform	Rev 0; IFC	3/9/04	4/8/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Ricky D. Zeplin TX 68767	Mustang
1440-20-ST-DG-1805-001	Instrument Access Platform	Rev 0; IFC	4/15/04	4/28/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Ricky D. Zeplin TX 68767	Mustang
1440-20-ST-DG-1806-001	Instrument Access Platform	Rev 0; IFC	4/13/04	4/28/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Ricky D. Zeplin TX 68767	Mustang
1440-20-ST-DG-1806-002	Instrument Access Platform	Rev 0; IFC	4/13/04	4/28/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Ricky D. Zeplin TX 68767	Mustang
1440-20-ST-DG-1807-001	Instrument Access Platform	Rev 0; IFC	4/8/04	4/28/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Ricky D. Zeplin TX 68767	Mustang
1440-20-ST-DG-1808-001	Instrument Access Platform	Rev 0; IFC	3/15/04	4/8/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Ricky D. Zeplin TX 68767	Mustang
1440-20-ST-DG-1809-001	Instrument Access Platform	Rev 0; IFC	3/3/04	4/8/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Ricky D. Zeplin TX 68767	Mustang
1440-20-ST-DG-1810-001	Instrument Access Platform	Rev 0; IFC	3/5/04	4/8/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Ricky D. Zeplin TX 68767	Mustang
1440-20-ST-DG-1811-001	Instrument Access Platform	Rev 0; IFC	3/11/04	4/8/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Ricky D. Zeplin TX 68767	Mustang
1440-20-ST-DG-1812-001	Instrument Access Platform	Rev 0; IFC	4/6/04	4/28/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Ricky D. Zeplin TX 68767	Mustang
1440-20-ST-DG-1813-001	Instrument Access Platform	Rev 0; IFC	5/4/04	5/27/04	MCH		NO		Rev 0	MCH		Topside Production	YES	Ricky D. Zeplin TX 68767	Mustang
1440-20-ST-DG-1820-001	Pigging Pump Skid Support	Rev 1; Revised after IFC	7/21/08	10/26/08	NP		NO					Topside Production	YES	Farrel Zwerneman TX 83137	Mustang
1440-20-ST-DG-1820-002	Pigging Pump Skid Support	Rev 0; IFC	7/21/08	9/9/08	NP		NO					Topside Production	YES	Farrel Zwerneman TX 83137	Mustang
1440-20-ST-DG-1820-003	Pigging Pump Skid Support	Rev 0; IFC	7/21/08	9/29/08	NP		NO					Topside Production	YES	Farrel Zwerneman TX 83137	Mustang
1440-20-ST-DG-1820-004	Pigging Pump Skid Support	Rev 1; Revised after IFC	7/21/08	11/18/08	NP		NO					Topside Production	YES	Farrel Zwerneman TX 83137	Mustang
1440-20-ST-DG-1820-005	Pigging Pump Skid Support	Rev 0; IFC	7/21/08	9/29/08	NP		NO					Topside Production	YES	Farrel Zwerneman TX 83137	Mustang

MS8-3 (Amended) Todd Production Inventory (Book 02)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-20-ST-DG-1820-006	Pigging Pump Skid Support	Rev 0; IFC	7/21/08	9/29/08	NP		NO					Topside Production	YES	Farrel Zwerneman TX 83137	Mustang
1440-20-ST-DG-1820-007	Pigging Pump Skid Support	Rev 1; Revised after IFC	7/21/08	9/29/08	NP		NO					Topside Production	YES	Farrel Zwerneman TX 83137	Mustang
1440-20-ST-DG-1820-008	Pigging Pump Skid Support	Rev 0; IFC	8/28/08	9/29/08	NP		NO					Topside Production	YES	Farrel Zwerneman TX 83137	Mustang
1440-20-ST-DG-1821-001	Pigging Pump Skid	Rev 1; Revised after IFC	7/21/08	12/1/08	NP		NO					Topside Production	YES	Farrel Zwerneman TX 83137	Mustang
1440-20-ST-DG-1821-002	Pigging Pump Skid	Rev 1; Revised after IFC	7/21/08	12/1/08	NP		NO					Topside Production	YES	Farrel Zwerneman TX 83137	Mustang
1440-20-ST-DG-1821-003	Pigging Pump Skid	Rev 1; Revised after IFC	7/21/08	12/1/08	NP		NO					Topside Production	YES	Farrel Zwerneman TX 83137	Mustang
1440-20-ST-DG-1821-004	Pigging Pump Skid	Rev 1; Revised after IFC	7/21/08	12/1/08	NP		NO					Topside Production	YES	Farrel Zwerneman TX 83137	Mustang
1440-20-ST-DG-1821-005	Pigging Pump Skid	Rev 1; Revised after IFC	7/21/08	12/1/08	NP		NO					Topside Production	YES	Farrel Zwerneman TX 83137	Mustang
1440-20-ST-DG-1821-006	Pigging Pump Skid	Rev 1; Revised after IFC	7/21/08	12/1/08	NP		NO					Topside Production	YES	Farrel Zwerneman TX 83137	Mustang
1440-20-ST-DG-1821-007	Pigging Pump Skid	Rev 1; Revised after IFC	7/21/08	12/1/08	NP		NO					Topside Production	YES	Farrel Zwerneman TX 83137	Mustang
1440-20-ST-DG-1821-008	Pigging Pump Skid	Rev 1; Revised after IFC	7/21/08	12/1/08	NP		NO					Topside Production	YES	Farrel Zwerneman TX 83137	Mustang
1440-20-ST-DG-1821-009	Pigging Pump Skid	Rev 0; IFC	7/21/08	8/19/08	NP		NO					Topside Production	YES	Farrel Zwerneman TX 83137	Mustang
1440-20-ST-DG-1821-010	Pigging Pump Skid	Rev 0; IFC	7/21/08	8/19/08	NP		NO					Topside Production	YES	Farrel Zwerneman TX 83137	Mustang
1440-20-ST-DG-1821-011	Pigging Pump Skid	Rev 0; IFC	7/21/08	8/19/08	NP		NO					Topside Production	YES	Farrel Zwerneman TX 83137	Mustang
1440-20-ST-DG-1821-012	Pigging Pump Skid	Rev 1; Revised after IFC	8/19/08	11/19/08	NP		NO					Topside Production	YES	Farrel Zwerneman TX 83137	Mustang
1440-20-ST-DG-1821-013	Pigging Pump Skid	Rev 1; Revised after IFC	8/19/08	11/19/08	NP		NO					Topside Production	YES	Farrel Zwerneman TX 83137	Mustang
1440-20-ST-DG-1821-014	Pigging Pump Skid	Rev 0; IFC	11/11/08	11/18/08			NO					Topside Production	YES	Joseph L. Wietzel TX 73644	Mustang
1440-20-ST-DG-1822-001	Pigging Pump Skid	Rev 1; Revised after IFC	7/21/08	10/24/08	NP		NO					Topside Production	YES	Farrel Zwerneman TX 83137	Mustang

MS8-3 (Amended) Todd Production Inventory (Book 02)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-20-ST-DG-1822-002	Pigging Pump Skid	Rev 1; Revised after IFC	7/21/08	10/24/08	NP		NO					Topside Production	YES	Farrel Zwerneman TX 83137	Mustang
1440-20-ST-DG-1822-003	Pigging Pump Skid	Rev 1; Revised after IFC	7/21/08	10/24/08	NP		NO					Topside Production	YES	Farrel Zwerneman TX 83137	Mustang
1440-20-ST-DG-1822-004	Pigging Pump Skid	Rev 0; IFC	7/21/08	10/8/08	NP		NO					Topside Production	YES	Farrel Zwerneman TX 83137	Mustang
1440-20-ST-DG-1823-001	Pigging Pump Skid	Rev 0; IFC	7/21/08	10/6/08	NP		NO					Topside Production	YES	Farrel Zwerneman TX 83137	Mustang
1440-20-ST-DG-1823-002	Pigging Pump Skid	Rev 1; Revised after IFC	7/21/08	6/11/09	NP		NO					Topside Production	YES	Farrel Zwerneman TX 83137	Mustang
1440-20-ST-DG-1824-001	Pigging Pump Skid	Rev 0; IFC	10/8/08	10/24/08	NP		NO					Topside Production	YES	Farrel Zwerneman TX 83137	Mustang
1440-20-ST-DG-1824-002	Pigging Pump Skid	Rev 0; IFC	10/8/08	10/24/08	NP		NO					Topside Production	YES	Farrel Zwerneman TX 83137	Mustang
1440-20-ST-DG-1824-003	Pigging Pump Skid	Rev 0; IFC	10/8/08	10/24/08	NP		NO					Topside Production	YES	Farrel Zwerneman TX 83137	Mustang
1440-20-ST-DG-1824-004	Pigging Pump Skid	Rev 0; IFC	10/8/08	10/24/08	NP		NO					Topside Production	YES	Farrel Zwerneman TX 83137	Mustang
1440-20-ST-DG-1824-005	Pigging Pump Skid	Rev 1; Revised after IFC	10/8/08	12/1/08	NP		NO					Topside Production	YES	Farrel Zwerneman TX 83137	Mustang
1440-20-ST-DG-1824-006	Pigging Pump Skid	Rev 0; IFC	10/8/08	10/24/08	NP		NO					Topside Production	YES	Farrel Zwerneman TX 83137	Mustang
1440-20-ST-DG-1830-001	O2 Scavenger Storage Tank	Rev 2; Revised after IFC	1/19/09	6/1/09	JLW		NO					Topside Production	YES	Joseph L. Wietzel TX 73644	Mustang
1440-20-ST-DG-1830-002	O2 Scavenger Storage Tank	Rev 2; Revised after IFC	1/19/09	6/1/09	JLW		NO					Topside Production	YES	Joseph L. Wietzel TX 73644	Mustang
1440-20-ST-DG-1830-003	O2 Scavenger Storage Tank	Rev 1; Revised after IFC	1/19/09	3/20/09	JLW		NO					Topside Production	YES	Joseph L. Wietzel TX 73644	Mustang
1440-20-ST-DG-1830-004	O2 Scavenger Storage Tank	Rev 1; Revised after IFC	1/19/09	3/20/09	JLW		NO					Topside Production	YES	Joseph L. Wietzel TX 73644	Mustang
1440-20-ST-DG-1830-005	O2 Scavenger Storage Tank	Rev 0; IFC	4/3/09	4/20/09	JLW		NO					Topside Production	YES	Joseph L. Wietzel TX 73644	Mustang
1440-20-ST-DG-1830-006	O2 Scavenger Storage Tank	Rev 1; Revised after IFC	3/23/09	6/3/09	JLW		NO					Topside Production	YES	Joseph L. Wietzel TX 73644	Mustang
1440-20-ST-DG-1830-007	O2 Scavenger Storage Tank	Rev 0; IFC	3/23/09	4/20/09	JLW		NO					Topside Production	YES	Joseph L. Wietzel TX 73644	Mustang
1440-20-ST-DG-1830-008	O2 Scavenger Storage Tank	Rev 0; IFC	4/6/09	4/28/09	JLW		NO					Topside Production	YES	Joseph L. Wietzel TX 73644	Mustang
1440-20-ST-DG-1830-009	O2 Scavenger Storage Tank	Rev 0; IFC	4/6/09	4/28/09	JLW		NO					Topside Production	YES	Joseph L. Wietzel TX 73644	Mustang
1440-20-ST-DG-1830-010	O2 Scavenger Storage Tank	Rev 0; IFC	5/11/09	6/1/09	JLW		NO					Topside Production	YES	Joseph L. Wietzel TX 73644	Mustang
1440-20-ST-DG-1830-011	O2 Scavenger Storage Tank	Rev 0; IFC	5/11/09	6/1/09	JLW		NO					Topside Production	YES	Joseph L. Wietzel TX 73644	Mustang

MS8-3 (Amended) Todd Production Inventory (Book 02)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-20-ST-DG-1830-012	O2 Scavenger Storage Tank	Rev 0; IFC	5/11/09	6/1/09	JLW		NO					Topside Production	YES	Joseph L. Wietzel TX 73644	Mustang
1440-20-ST-DG-5500-001	Skids Drawing Index & Notes	Rev 6; Revised after IFC	4/1/03	7/18/03	DRR		NO		Rev 6	DRR		Topsde Skid Drawings	Yes	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5500-002	Typical Weld Connection	Rev 0; IFC	6/24/03	7/18/03	DRR		NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5500-003	Typical Weld Connection	Rev 0; IFC	6/24/03	7/18/03	DRR		NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5500-004	Typical Weld Connection	Rev 0; IFC	6/24/03	7/18/03	DRR		NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5500-005	Typical Skid Handrail	Rev 1; Revised after IFC	6/17/03	7/28/03	DRR		NO		Rev 1	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5500-006	Typical Skid Handrail	Rev 1; Revised after IFC	6/16/03	7/28/03	DRR		NO		Rev 1	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5501	VCU Skid lower Level	Rev 0; IFC	3/5/03	7/24/03	DRR		NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5502	VCU Skid lower Level	Rev 0; IFC	3/5/03	7/30/03	DRR		NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5503	VCU Skid Framing Sections	Rev 0; IFC	3/5/03	7/24/03	DRR		NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5504	VCU Skid Connection Details	Rev 0; IFC	3/5/03	7/24/03	DRR		NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5505	VCU Skid Lift Details	Rev 0; IFC	3/5/03	7/24/03	DRR		NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5506	VCU Skid Lift Details	Rev 0; IFC	3/5/03	7/30/03	DRR		NO		Rev0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5507	VCU Skid Lift Details	Rev 0; IFC	7/16/03	7/25/03	DRR		NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5520	Booster Export Skid	Rev 1; Revised after IFC	11/1/02	8/12/03	DRR		NO		Rev 1	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5521	Booster Export Skid	Rev 2; As-Built	11/1/02	1/25/07			NO		Rev 1	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5522	Booster Export Skid	Rev 0; IFC	11/1/02	7/30/03	DRR		NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5523	Booster Export Skid	Rev 0; IFC	11/1/02	7/30/03	DRR		NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5524	Booster Export Skid	Rev 0; IFC	11/1/02	7/30/03	DRR		NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5525	Booster Export Skid	Rev 0; IFC	11/1/02	7/30/03	DRR		NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5526	Booster Export Skid	Rev 0; IFC	11/1/02	7/30/03	DRR		NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5527	Booster Export Skid	Rev 0; IFC	6/17/03	7/30/03	DRR		NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5528	Booster Export Skid	Rev 2; Revised after IFC	11/1/02	10/9/03	DRR		NO		Rev 2	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5529	Booster Export Skid	Rev 2; As-Built	7/28/03	1/25/07			NO		Rev 1	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5530	Booster Export Skid	Rev 0; IFC	7/28/03	7/28/03	DRR		NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5531	Booster Export Skid	Rev 0; IFC	7/28/03	7/30/03	DRR		NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5531	Booster Export Skid	Rev 1; Revised after IFC	11/1/02	8/12/03	DRR		NO		Rev 1	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang

MS8-3 (Amended) Todd Production Inventory (Book 02)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-20-ST-DG-5541	Booster Export Skid	Rev 2; As-Built	11/1/02	1/25/07			NO		Rev 1	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5542	Booster Export Skid	Rev 0; IFC	11/1/02	7/30/03	DRR		NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5543	Booster Export Skid	Rev 0; IFC	11/1/02	7/30/03	DRR		NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5544	Booster Export Skid	Rev 0; IFC	11/1/02	7/30/03	DRR		NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5545	Booster Export Skid	Rev 0; IFC	11/1/02	7/30/03	DRR		NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5546	Booster Export Skid	Rev 0; IFC	11/1/02	7/30/03	DRR		NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5547	Booster Export Skid	Rev 0; IFC	7/17/03	7/30/03	DRR		NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5549	Booster Export Skid	Rev 2; Revised after IFC	11/1/02	10/9/03	DRR		NO		Rev 2	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5550	Booster Export Skid	Rev 2; As-Built	7/28/03	1/25/07			NO		Rev 1	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5551	Booster Export Skid	Rev 0; IFC	7/28/03	7/28/03			NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5552	Booster Export Skid	Rev 0; IFC	7/28/03	7/30/03			NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5560	Launch Receiver Skid	Rev 1; Revised after IFC	12/6/02	8/12/03	DRR		NO		Rev 1	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5561	Launch Receiver Skid	Rev 1; Revised after IFC	12/6/02	8/12/03	DRR		NO		Rev 1	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5562	Launch Receiver Skid	Rev 0; IFC	2/20/03	7/18/03	DRR		NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5563	Launch Receiver Skid	Rev 1; Revised after IFC	2/20/03	8/12/03	DRR		NO		Rev 1	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5564	Launch Receiver Skid	Rev 1; As-Built	12/6/02	1/25/07			NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5565	Launch Receiver Skid	Rev 0; IFC	12/6/02	7/13/03	DRR		NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5566	Launch Receiver Skid	Rev 0; IFC	7/16/03	7/18/03	DRR		NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5570	Launch Receiver Skid	Rev 1; Revised after IFC	12/6/02	8/12/03	DRR		NO		Rev 1	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5571	Launch Receiver Skid	Rev 1; Revised after IFC	2/20/03	8/12/03	DRR		NO		Rev 1	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5572	Launch Receiver Skid	Rev 0; IFC	2/20/03	7/18/03	DRR		NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5573	Launch Receiver Skid	Rev 1; Revised after IFC	2/20/03	8/12/03	DRR		NO		Rev 1	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5574	Launch Receiver Skid	Rev 0; IFC	2/20/03	7/13/03	DRR		NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5575	Launch Receiver Skid	Rev 0; IFC	12/6/02	7/13/03	DRR		NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5580	Launch Receiver Skid	Rev 1; Revised after IFC	12/6/02	8/12/03	DRR		NO		Rev 1	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5581	Launch Receiver Skid	Rev 1; Revised after IFC	2/20/03	8/12/03	DRR		NO		Rev 1	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5582	Launch Receiver Skid	Rev 0; IFC	2/20/03	7/18/03	DRR		NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang

MS8-3 (Amended) Todd Production Inventory (Book 02)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-20-ST-DG-5583	Launch Receiver Skid	Rev 1; Revised after IFC	2/20/03	8/12/03	DRR		NO		Rev 1	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5584	Launch Receiver Skid	Rev 0; IFC	2/20/03	7/18/03	DRR		NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5585	Launch Receiver Skid	Rev 0; IFC	12/6/02	7/18/03	DRR		NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5590	Launch Receiver Skid	Rev 1; Revised after IFC	12/6/02	8/12/03	DRR		NO		Rev 1	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5591	Launch Receiver Skid	Rev 1; Revised after IFC	2/20/03	8/12/03	DRR		NO		Rev 1	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5592	Launch Receiver Skid	Rev 0; IFC	2/20/03	7/18/03	DRR		NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5593	Launch Receiver Skid	Rev 1; Revised after IFC	2/20/03	8/12/03	DRR		NO		Rev 1	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5594	Launch Receiver Skid	Rev 0; IFC	2/20/03	7/18/03	DRR		NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5595	Launch Receiver Skid	Rev 1; Revised after IFC	12/6/02	8/12/03	DRR		NO		Rev 1	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5600	Launch Receiver Skid	Rev 1; Revised after IFC	12/6/02	8/12/03	DRR		NO		Rev 1	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5601	Launch Receiver Skid	Rev 1; Revised after IFC	2/20/03	8/12/03	DRR		NO		Rev 1	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5602	Launch Receiver Skid	Rev 0; IFC	2/20/03	7/18/03	DRR		NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5603	Launch Receiver Skid	Rev 0; IFC	2/20/03	8/12/03	DRR		NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5604	Launch Receiver Skid	Rev 0; IFC	2/20/03	7/18/03	DRR		NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5605	Launch Receiver Skid	Rev 0; IFC	12/6/02	7/18/03	DRR		NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5610	Launch Receiver Skid	Rev 2; Revised after IFC	12/6/02	10/9/03	DRR		NO		Rev 2	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5611	Water Injection Launcher Skid	Rev 1; Revised after IFC	2/20/03	8/12/03	DRR		NO		Rev 1	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5612	Water Injection Launcher Skid	Rev 0; IFC	2/20/03	7/18/03	DRR		NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5613	Water Injection Launcher Skid	Rev 0; IFC	2/20/03	7/18/03	DRR		NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5614	Water Injection Launcher Skid	Rev 0; IFC	12/6/02	7/18/03	DRR		NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5615	Water Injection Launcher Skid	Rev 0; IFC	6/17/03	7/18/03	DRR		NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5616	Water Injection Launcher Skid	Rev 2; Revised after IFC	12/6/02	10/9/03	DRR		NO		Rev 2	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5617	Water Injection Launcher Skid	Rev 0; IFC	6/26/03	7/18/03	DRR		NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang
1440-20-ST-DG-5618	Water Injection Launcher Skid	Rev 0; IFC	6/26/03	7/18/03	DRR		NO		Rev 0	DRR		Topside Skid Drawings	YES	Daniel R. Ramirez TX 46931	Mustang

MS8-4 (Amended) Todd Production Inventory (Book 03)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-50-ST-DG-112-0001	Main Towing Brackets	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-ST-DG-112-0010	Main Towing Brackets	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-ST-DG-112-0011	Main Towing Brackets	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-ST-DG-112-0012	Main Towing Brackets	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-ST-DG-112-0013	Main Towing Brackets	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-ST-DG-112-0014	Harbour Tug Brackets	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-ST-DG-112-0015	Harbour Tug Brackets	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-ST-DG-112-0020	Harbour Tug Brackets	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-ST-DG-112-0021	Harbour Tug Brackets	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-ST-DG-112-0101	Drainage Collector	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-ST-DG-112-0102	Drainage Collector	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-ST-DG-112-0103	Drainage Collector	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-ST-DG-112-0104	Drainage Collector	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-ST-DG-112-0105	Drainage Collector	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-ST-DG-112-0106	Drainage Collector	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-ST-DG-112-0107	Disposal Caisson Details	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-ST-DG-112-0108	Disposal Caisson Details	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-ST-DG-112-3001	Column Shell Plate Expanded	Rev 60; As-Built	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-ST-DG-112-3002	Column Shell Plate Expanded	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-ST-DG-112-3003	Column Shell Plate Expanded	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-ST-DG-112-3004	Column Shell Plate Expanded	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-ST-DG-112-3010	Column Shell Plate Expanded	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-ST-DG-112-3031	Riser Hard Piping Supports	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-ST-DG-112-3032	Riser Hard Piping Supports	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME

MS8-4 (Amended) Todd Production Inventory (Book 03)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-50-ST-DG-112-3033	Riser Hard Piping Supports	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-MU-DG-800-5108	Riser Hard Piping Supports	Rev 60; IFC	10/1/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-MU-DG-800-5109	Riser Hard Piping Supports	Rev 60; IFC	10/1/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-MU-DG-800-5110,5111	Riser Hard Piping Supports	Rev 60; IFC	10/1/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-MU-DG-800-5112	Riser Hard Piping Supports	Rev 60; IFC	10/1/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-MU-DG-800-5113	Riser Hard Piping Supports	Rev 60; IFC	10/1/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-MU-DG-800-5114,5115	Riser Hard Piping Supports	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-ST-DG-112-3101	Plan of Column	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-ST-DG-112-3102	Plan of Column	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-ST-DG-112-3103	Plan of Column	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-ST-DG-112-3111	Plan of Stringers	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-ST-DG-112-3113	Plan of Stringers	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-ST-DG-112-3115	Plan of Stringers	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-ST-DG-112-3117	Plan of Stringers	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-ST-DG-112-3119	Plan of Stringers	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-ST-DG-112-3131	WT Stringer	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-ST-DG-112-3133	WT Stringer	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-ST-DG-112-3201	Longitudinal Center Bulkhead	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-ST-DG-112-3221	Trunk Bulkheads	Rev 60; As-Built	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-ST-DG-112-3301	Transversal Center Bulkhead	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-ST-DG-112-4001	Column Shell Plate Expanded	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-ST-DG-112-4002	Column Shell Plate Expanded	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-ST-DG-112-4003	Column Shell Plate Expanded	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-ST-DG-112-4004	Column Shell Plate Expanded	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME

MS8-4 (Amended) Todd Production Inventory (Book 03)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-50-ST-DG-112-4103	Plan of Column	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-ST-DG-112-4119	Plan of Stringers	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Columns & Bracing	NO		DSME
1440-50-ST-DG-110-0010	Main Structure	Rev 3; Issued for IDE	4/20/02	10/31/02			NO		Rev 3			Hull General	NO		GVA Consultants
1440-50-ST-DG-110-0001	Structural Arr't	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull General	NO		DSME
1440-50-ST-DG-110-0002	Structural Arr't	Rev 60; As-Built	7/25/03	3/28/05			NO		Rev 60			Hull General	NO		DSME
1440-50-ST-DG-110-0003	Structural Arr't	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull General	NO		DSME
1440-50-ST-DG-110-0004	Structural Arr't	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull General	NO		DSME
1440-50-ST-DG-110-0005	Structural Arr't	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull General	NO		DSME
1440-50-ST-DG-110-0006	Structural Arr't	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull General	NO		DSME
1440-50-ST-DG-110-0040	Tank Test Plan	Rev 60; As-Built	7/25/03	3/28/05			NO		Rev 60			Hull General	NO		DSME
1440-50-ST-DG-110-0041	Tank Test Plan	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull General	NO		DSME
1440-50-ST-DG-110-0042	Tank Test Plan	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull General	NO		DSME
1440-50-ST-DG-110-0043	Tank Test Plan	Rev 60; As-Built	9/19/03	3/28/05			NO		Rev 60			Hull General	NO		DSME
1440-50-ST-DG-110-0044	Main Structure Tank Test Plan	Rev 1; Issued for IDE	9/26/02	11/14/02			NO		Rev 1			Hull General	NO		GVA Consultants
1440-50-ST-DG-110-0045	Main Structure Tank Test Plan	Rev 1; Issued for IDE	11/11/02	12/16/02			NO		Rev 1			Hull General	NO		GVA Consultants
1440-50-ST-DG-110-0046	Tank Test Plan	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Hull General	NO		DSME
1440-50-ST-DG-110-0050	Main Structure Typical Details	Rev 2; Issued for IDE	4/29/02	10/31/02			NO		Rev 2			Hull General	NO		GVA Consultants
1440-50-ST-DG-110-0201	Main Structure	Rev 4; Issued for IDE	6/19/02	7/11/03			NO		Rev 4			Hull General	NO		GVA Consultants
1440-50-ST-DG-110-2001	General Notes	Rev 60; IFC	7/25/03	2/17/05			NO		Rev 60			Hull General	NO		DSME
1440-50-ST-DG-110-2002	General Notes	Rev 60; IFC	7/25/03	2/17/05			NO		Rev 60			Hull General	NO		DSME
1440-50-ST-DG-110-2005	External Anode Arrangement	Rev 60; IFC	9/21/03	2/17/05			NO		Rev 60			Hull General	NO		DSME
1440-50-ST-DG-110-2005	External Anode Arrangement	Rev 60; IFC	9/21/03	2/17/05			NO		Rev 60			Hull General	NO		DSME
1440-50-ST-DG-110-2005	External Anode Arrangement	Rev 60; IFC	9/21/03	2/17/05			NO		Rev 60			Hull General	NO		DSME
1440-50-ST-DG-110-2005	External Anode Arrangement	Rev 60; IFC	9/21/03	2/17/05			NO		Rev 60			Hull General	NO		DSME
1440-50-ST-DG-110-2010	External Anode Arrangement	Rev 60; IFC	9/21/03	2/17/05			NO		Rev 60			Hull General	NO		DSME
1440-50-ST-DG-110-2010	External Anode Arrangement	Rev 60; IFC	9/21/03	2/17/05			NO		Rev 60			Hull General	NO		DSME
1440-50-ST-DG-110-2010	External Anode Arrangement	Rev 60; IFC	9/21/03	2/17/05			NO		Rev 60			Hull General	NO		DSME
1440-50-ST-DG-110-2010	External Anode Arrangement	Rev 60; IFC	9/21/03	2/17/05			NO		Rev 60			Hull General	NO		DSME
1440-50-ST-DG-110-2015	External Anode Arrangement	Rev 60; IFC	9/21/03	2/17/05			NO		Rev 60			Hull General	NO		DSME
1440-50-ST-DG-110-2015	External Anode Arrangement	Rev 60; IFC	9/21/03	2/17/05			NO		Rev 60			Hull General	NO		DSME
1440-50-ST-DG-110-2015	External Anode Arrangement	Rev 60; IFC	9/21/03	2/17/05			NO		Rev 60			Hull General	NO		DSME
1440-50-ST-DG-110-2015	External Anode Arrangement	Rev 60; IFC	9/21/03	2/17/05			NO		Rev 60			Hull General	NO		DSME
1440-50-ST-DG-110-2020	External Anode Arrangement	Rev 60; As-Built	9/21/03	2/17/05			NO		Rev 60			Hull General	NO		DSME
1440-50-ST-DG-110-2020	External Anode Arrangement	Rev 60; As-Built	9/21/03	2/17/05			NO		Rev 60			Hull General	NO		DSME
1440-50-ST-DG-110-2020	External Anode Arrangement	Rev 60; IFC	9/21/03	2/17/05			NO		Rev 60			Hull General	NO		DSME
1440-50-ST-DG-110-2020	External Anode Arrangement	Rev 60; IFC	9/21/03	2/17/05			NO		Rev 60			Hull General	NO		DSME

MS8-4 (Amended) Todd Production Inventory (Book 03)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-50-ST-DG-110-2025, 26	External Anode Arrangement	Rev 60; IFC	9/21/03	2/17/05			NO		Rev 60			Hull General	NO		DSME
1440-50-ST-DG-110-2025, 26	External Anode Arrangement	Rev 60; IFC	9/21/03	2/17/05			NO		Rev 60			Hull General	NO		DSME
1440-50-ST-DG-110-2025, 26	External Anode Arrangement	Rev 60; IFC	9/21/03	2/17/05			NO		Rev 60			Hull General	NO		DSME
1440-50-ST-DG-110-2025, 26	External Anode Arrangement	Rev 60; IFC	9/21/03	2/17/05			NO		Rev 60			Hull General	NO		DSME
	Disposal Caisson	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
	Pontoon Bottom Port/Aft	Rev 60; As-Built					NO		Rev 60			Hull General	NO		DSME
	Pontoon Bottom Port/Aft	Rev 60; As-Built					NO		Rev 60			Hull General	NO		DSME
	Pontoon Bottom Port/Aft	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
	Pontoon Bottom Port/Fwd	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
	Pontoon Bottom Port/Fwd	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
	Pontoon Bottom Port/Fwd	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
	Pontoon Bottom Stbd/Fwd	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
	Pontoon Bottom Stbd/Fwd	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
	Pontoon Bottom Stbd/Fwd	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
	Pontoon Bottom Stbd/Aft	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
	Pontoon Bottom Stbd/Aft	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
	Pontoon Bottom Stbd/Aft	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
	Pontoon Side Shell Port/Aft	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
	Pontoon Bottom Stbd/Aft	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
	Pontoon Side Shell Port/Aft	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
	Pontoon WTB & WEB Frame Port/Aft	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
	Pontoon WTB & WEB Frame Port/Aft	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
	Pontoon WTB & WEB Frame Port/Aft	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
	Pontoon WTB & WEB Frame Port/Aft	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
	Pontoon WTB & WEB Frame Port/Aft	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
	Pontoon Side Shell Port/Fwd	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
	Pontoon Side Shell Port/Fwd	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
	Pontoon WTB & WEB Frame Port/Fwd	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
	Pontoon WTB & WEB Frame Port/Fwd	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
	Pontoon WTB & WEB Frame Port/Fwd	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
	Pontoon WTB & WEB Frame Port/Fwd	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
	Pontoon WTB & WEB Frame Port/Fwd	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
	Pontoon WTB & WEB Frame Port/Fwd	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
	Pontoon Side Shell Stbd/Fwd	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME

MS8-4 (Amended) Todd Production Inventory (Book 03)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
	Pontoon Side Shell Stbd/Fwd	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
	Pontoon WTB & WEB Frame Stbd/Fwd	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
	Pontoon WTB & WEB Frame Stbd/Fwd	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
	Pontoon WTB & WEB Frame Stbd/Fwd	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
	Pontoon WTB & WEB Frame Stbd/Fwd	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
	Pontoon WTB & WEB Frame Stbd/Fwd	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
	Pontoon WTB & WEB Frame Stbd/Fwd	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
	Pontoon Side Shell Stbd/Aft	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
	Pontoon WTB & WEB Frame Stbd/Aft	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
	Pontoon WTB & WEB Frame Stbd/Aft	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
	Pontoon WTB & WEB Frame Stbd/Aft	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
	Pontoon WTB & WEB Frame Stbd/Aft	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
	Pontoon WTB & WEB Frame Stbd/Aft	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
	Support for Riser Receptacles	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
	Support for Riser Receptacles	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
	Structural Details End Config	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
	Pontoon Column Stbd/Fwd	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
	Deck Box	Rev 60; IFC					NO		Rev 60			Hull General	NO		DSME
1440-50-ST-DG-111-0001	Drawing Overview Plan	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-0002	Drawing Overview Plan	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-0020	Harbour Tug Brackets	Rev 60; IFC	12/22/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-0021	Harbour Tug Brackets	Rev 60; IFC	12/22/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-0022	Harbour Tug Brackets	Rev 60; IFC	12/22/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-0101	Details Around Cast Integrals	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-0105	Details Around Cast Integrals	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-0115	Details Around Cast Integrals	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-0120	Details Around Cast Integrals	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
	Support for Riser Receptacles						NO		Rev 60			Hull Pontoons	NO		DSME
	Support for Riser Receptacles						NO		Rev 60			Hull Pontoons	NO		DSME
	Structural Details End Config						NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-0202	Support for Riser Receptacles	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-0203	Support for Riser Receptacles	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
	Support for Riser Receptacles						NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-0205	Support for Riser Receptacles	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-0206	Support for Riser Receptacles	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-0207	Support for Riser Receptacles	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-0208	Support for Riser Receptacles	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-0209	Support for Riser Receptacles	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME

MS8-4 (Amended) Todd Production Inventory (Book 03)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-50-ST-DG-111-0210	Support for Riser Receptacles	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-0211	Support for Riser Receptacles	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-0212	Support for Riser Receptacles	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-0213	Support for Riser Receptacles	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-0214	Support for Riser Receptacles	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-0215	Support for Riser Receptacles	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-0216	Support for Riser Receptacles	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
	Funnel for Riser Receptacle						NO					Hull Pontoons	NO		DSME
	Diver rigging Point for MGTS						NO					Hull Pontoons	NO		DSME
	Padeye for MGTS Spool						NO					Hull Pontoons	NO		DSME
1440-50-ST-DG-111-1111	Stringer Plan 1920 & 3840	Rev 60; As-Built	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-1121	Pontoon Bottom at Base Line	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-1202	NE WT BHD 34560 Off CL	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-1221	Inner Side Shell	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-1318	Web Frame Elevations	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-1319	Web Frame Elevations	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-1330	Web Frame Elevations	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-1331	Funnel for Riser Receptacle	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-1352	Diver rigging Point for MGTS	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-1355	Padeye for MGTS Spool	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-2111	Stringer Plan 1920 & 3840	Rev 60; As-Built	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-2121	Pontoon Bottom at Base Line	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-2221	Inner Side Shell	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-2328	Web Frame Sections Pontoon	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-2329	Web Frame Sections Pontoon	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-2330	Web Frame Sections Pontoon	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-2331	Web Frame Sections Pontoon	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-2350	Main Structure	Rev 2; Issued for IDE	9/25/02	12/12/02			NO		Rev 2			Hull Pontoons	NO		GVA Consultants
1440-50-ST-DG-111-3101	Pontoon Deck 10880 Above	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3111	Stringer Plan 1920 & 3840	Rev 60; As-Built	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3112	Plan 5120/6400 & 8320 Above	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3115	Reinforcement for Fairleads	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3116	Reinforcement for Fairleads	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3121	Pontoon Bottom at Base Line	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3201	NW WT BHD & Pipe Tunnel	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3202	NW WT BHD & Pipe Tunnel	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3221	Inner Side Shell	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-2327	Web Frame Sections Pontoon	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3231	Outter Side Shell	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3301	Typical Section between Trans	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3311	Web Frame Elevations	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3312	Web Frame Elevations	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3313	Web Frame Elevations	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3314	Web Frame Elevations	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3315	Web Frame Elevations	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME

MS8-4 (Amended) Todd Production Inventory (Book 03)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-50-ST-DG-111-3316	Web Frame Elevations	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3317	Web Frame Elevations	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3318	Web Frame Elevations	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3318	Web Frame Elevations	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3319	Web Frame Elevations	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3320	Web Frame Elevations	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3321	Web Frame Elevations	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3321	Web Frame Elevations	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3322	Web Frame Elevations	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3322	Web Frame Elevations	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3323	Web Frame Elevations	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3323	Web Frame Elevations	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3325	Web Frame Sections Pontoon	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3326	Web Frame Sections Pontoon	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3327	Web Frame Sections Pontoon	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3328	Web Frame Sections Pontoon	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3329	Web Frame Sections Pontoon	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3330	Web Frame Sections Pontoon	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3331	Web Frame Sections Pontoon	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3332	Web Frame Sections Pontoon	Rev 60; As-Built	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3333	Web Frame Sections Pontoon	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3334	Web Frame Sections Pontoon	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3334	Web Frame Sections Pontoon	Rev 60; As-Built	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3335	Web Frame Sections Pontoon	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3335	Web Frame Sections Pontoon	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3336	Web Frame Sections Pontoon	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3336	Web Frame Sections Pontoon	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3337	Web Frame Sections Pontoon	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3337	Web Frame Sections Pontoon	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3340	WT Bulkheads	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3341	WT Bulkheads	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3342	WT Bulkheads	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3343	WT Bulkheads	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3345	WT Bulkheads	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3346	WT Bulkheads	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3346	WT Bulkheads	Rev 60; As-Built	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3350	WT Bulkheads	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3351	WT Bulkheads	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3352	WT Bulkheads	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3355	WT Bulkheads	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3356	WT Bulkheads	Rev 60; As-Built	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3361	Trunk Bulkheads	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-3371	Chain Lockers	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-4101	Pontoon Deck 10880 Above	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-4101	Pontoon Deck 10880 Above	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME

MS8-4 (Amended) Todd Production Inventory (Book 03)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-50-ST-DG-111-4111	Pontoon Deck 10880 Above	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-4112	Plan 5120/6400 & 8320 Above	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-4115	Reinforcement for Fairleads	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-4116	Reinforcement for Fairleads	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-4121	Pontoon Bottom at Base Line	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-4201	S/W WT BHD & Pipe Tunnel	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-4202	S/W WT BHD & Pipe Tunnel	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-4221	Inner Side Shell	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-4231	Inner Side Shell	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-4301	Typical Section between Trans	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-4311	Web Frame Elevations	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-4312	Web Frame Elevations	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-4313	Web Frame Elevations	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-4314	Web Frame Elevations	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-4315	Web Frame Elevations	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-4316	Web Frame Elevations	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-4317	Web Frame Elevations	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-4319	Web Frame Elevations	Rev 60; As-Built	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-4320	Web Frame Elevations	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-4325	Web Frame Sections Pontoon	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-4326	Web Frame Sections Pontoon	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-4327	Web Frame Sections Pontoon	Rev 60; As-Built	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-4328	Web Frame Sections Pontoon	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-4329	Web Frame Sections Pontoon	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-4330	Web Frame Sections Pontoon	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-4331	Web Frame Sections Pontoon	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-4332	Web Frame Sections Pontoon	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-4333	Web Frame Sections Pontoon	Rev 60; As-Built	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-4340	WT Bulkheads	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-4341	WT Bulkheads	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-4342	WT Bulkheads	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-4345	WT Bulkheads	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-4346	WT Bulkheads	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-4350	WT Bulkheads	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-4351	WT Bulkheads	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-4352	WT Bulkheads	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-4353	WT Bulkheads	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-4355	WT Bulkheads	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-4356	WT Bulkheads	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-111-4371	Chain Lockers	Rev 60; IFC	7/25/03	3/28/05			NO		Rev 60			Hull Pontoons	NO		DSME
1440-50-ST-DG-113-0001	Overview Plann Upper Hull	Rev 60; As-Built	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0002	Overview Plann Upper Hull	Rev 60; As-Built	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0011	Typical Details Upper Hull	Rev 60; As-Built	8/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME

MS8-4 (Amended) Todd Production Inventory (Book 03)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-50-ST-DG-113-0012	Typical Details Upper Hull	Rev 60; IFC	1/9/04	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0012	Typical Details Upper Hull	Rev 60; IFC	1/9/04	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0012	Typical Details Upper Hull	Rev 60; IFC	1/9/04	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0101	Details Around Cast Integrals	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0102	Details Around Cast Integrals	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0103	Details Around Cast Integrals	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0104	Details Around Cast Integrals	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0105	Details Around Cast Integrals	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0106	Details Around Cast Integrals	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0107	Details Around Cast Integrals	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0108	Details Around Cast Integrals	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0109	Details Around Cast Integrals	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0110	Details Around Cast Integrals	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0111	Details Around Cast Integrals	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0112	Details Around Cast Integrals	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0116	Details Around Cast Integrals	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0117	Details Around Cast Integrals	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0118	Details Around Cast Integrals	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0119	Details Around Cast Integrals	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0120	Details Around Cast Integrals	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0121	Details Around Cast Integrals	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0122	Details Around Cast Integrals	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0123	Details Around Cast Integrals	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0128	Details Around Cast Integrals	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0129	Details Around Cast Integrals	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0130	Details Around Cast Integrals	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0131	Details Around Cast Integrals	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0132	Details Around Cast Integrals	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0133	Details Around Cast Integrals	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0134	Details Around Cast Integrals	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0135	Details Around Cast Integrals	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0139	Details Around Cast Integrals	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0140	Details Around Cast Integrals	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0301	Reinforcement for Umbilicals	Rev 60; IFC	9/22/03	3/28/04			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0302	Reinforcement for Umbilicals	Rev 60; IFC	9/22/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0303	Reinforcement for Umbilicals	Rev 60; IFC	9/22/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0304	Reinforcement for Umbilicals	Rev 60; IFC	9/22/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0305	Reinforcement for Umbilicals	Rev 60; IFC	9/22/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0306	Reinforcement for Umbilicals	Rev 60; IFC	9/22/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0307	Reinforcement for Umbilicals	Rev 60; IFC	9/22/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0310	Reinforcement for Umbilicals	Rev 60; IFC	9/22/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
	Reinforcement for Umbilicals						NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0312	Reinforcement for Umbilicals	Rev 60; IFC	9/22/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0314	Reinforcement for Umbilicals	Rev 60; IFC	9/22/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0315	Reinforcement for Umbilicals	Rev 60; IFC	9/22/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-0601	Lifeboat Platform Plan	Rev 60; IFC		3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-1101	Plan Upper Hull Main Deck	Rev 60; As-Built	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-1105	Reinforcement for Mooring Chain	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME

MS8-4 (Amended) Todd Production Inventory (Book 03)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-50-ST-DG-113-1107	Reinforcement for Mooring Chain	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-1111	Tween Deck Plan	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-1121	Plan Upper Hull Lower Deck	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-1131	Plan Upper Hull Box Bottom	Rev 60; As-Built	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-1201	Longitudinal Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-1202	Longitudinal Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-1203	Longitudinal Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-1204	Longitudinal Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-1205	Longitudinal Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-1206	Longitudinal Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-1207	Longitudinal Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-1208	Longitudinal Sections Upper	Rev 60; As-Built	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-1209	Longitudinal Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-1301	Transverse Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-1302	Transverse Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-1303	Transverse Sections Upper	Rev 60; IFC	9/22/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-1304	Transverse Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-1305	Transverse Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-1306	Transverse Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-1307	Transverse Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-1308	Transverse Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-2101	Plan Upper Hull Main Deck	Rev 60; As-Built	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-2101	Plan Upper Hull Main Deck	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-2101	Plan Upper Hull Main Deck	Rev 60; As-Built	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-2105	Reinforcement for Mooring Chain	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-2107	Reinforcement for Mooring Chain	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-2111	Plan Upper Hull Tween Deck	Rev 60; As-Built	9/9/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-2121	Plan Upper Hull Lower Deck	Rev 60; IFC	9/9/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-2131	Plan Upper Hull Box Bottom	Rev 60; IFC	9/9/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-2201	Longitudinal Sections Upper	Rev 60; As-Built	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-2202	Longitudinal Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-2203	Longitudinal Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-2204	Longitudinal Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-2205	Longitudinal Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-2206	Longitudinal Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-2207	Longitudinal Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-2208	Longitudinal Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-2209	Longitudinal Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-2301	Transverse Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-2302	Transverse Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-2303	Transverse Sections Upper	Rev 60; As-Built	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-2304	Transverse Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME

MS8-4 (Amended) Todd Production Inventory (Book 03)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-50-ST-DG-113-2305	Transverse Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-2306	Transverse Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-2307	Transverse Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-2308	Transverse Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-2309	Transverse Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-2501	Deck House Plan	Rev 60; As-Built	1/20/04	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-2502	Deck House Plan	Rev 60; IFC	1/20/04	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-2503	Deck House Longit Sections	Rev 60; As-Built	1/20/04	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-2503	Deck House Longit Sections	Rev 60; IFC	1/20/04	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-2503	Deck House Longit Sections	Rev 60; IFC	1/20/04	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-2504	Deck House Transv Sections	Rev 60; As-Built	1/20/04	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-2504	Deck House Transv Sections	Rev 60; IFC	1/20/04	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-2504	Deck House Transv Sections	Rev 60; As-Built	1/20/04	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-1301	Plan Upper Hull Main Deck	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-1305	Reinforcement for Mooring Chain	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-1306	Reinforcement for Mooring Chain	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-1307	Reinforcement for Mooring Chain	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-3111	Plan Upper Hull Tween Deck	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-3121	Plan Upper Hull Lower Deck	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-3131	Plan Upper Hull Box Bottom	Rev 60; As-Built	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-3201	Longitudinal Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-3202	Longitudinal Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-3203	Longitudinal Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-3204	Longitudinal Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-3205	Longitudinal Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-3206	Longitudinal Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-3207	Longitudinal Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-3208	Longitudinal Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-3209	Longitudinal Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-3301	Transverse Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-3302	Transverse Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-3303	Transverse Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-3304	Transverse Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-3305	Transverse Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-3306	Transverse Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-3307	Transverse Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-3308	Transverse Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-3551	Liftboat Platform Plan & Sections	Rev 60; IFC	10/1/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-3552	Liftboat Platform Plan & Sections	Rev 60; IFC	10/1/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-3552	Liftboat Platform Plan & Sections	Rev 60; IFC	10/1/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-4101	Plan Upper Hull Main Deck	Rev 60; As-Built	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-4105	Reinforcement for Mooring Chain	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-4106	Reinforcement for Mooring Chain	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME

MS8-4 (Amended) Todd Production Inventory (Book 03)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engineering Contractor
1440-50-ST-DG-113-4107	Reinforcement for Mooring Chain	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-4111	Plan Upper Hull	Rev 60; As-Built	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-4121	Plan Upper Hull	Rev 60; As-Built	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-4131	Plan Upper Hull	Rev 60; As-Built	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-4201	Longitudinal Sections Upper	Rev 60; As-Built	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-4202	Longitudinal Sections Upper	Rev 60; As-Built	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-4203	Longitudinal Sections Upper	Rev 60; As-Built	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-4204	Longitudinal Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-4205	Longitudinal Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-4206	Longitudinal Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-4207	Longitudinal Sections Upper	Rev 60; As-Built	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-4208	Longitudinal Sections Upper	Rev 60; As-Built	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-4209	Longitudinal Sections Upper	Rev 60; As-Built	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-4301	Transverse Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-4302	Transverse Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-4303	Transverse Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-4304	Transverse Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-4306	Transverse Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-4307	Transverse Sections Upper	Rev 60; IFC	9/19/03	3/28/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-4308	Transverse Sections Upper	Rev 60; IFC	9/19/03	3/18/05			NO		Rev 60			Upper Hull	NO		DSME
1440-50-ST-DG-113-4309	Transverse Sections Upper	Rev 60; IFC	9/19/03	3/18/05			NO		Rev 60			Upper Hull	NO		DSME

MS8-5: Todd Production Inventory (Book 04)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engr Contractor	
1440-50-MO-DG-145-0008	Manhole Cover Arrangement for Pump Room Deck	Rev 60, IFC	7/1/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	
1440-50-MO-DG-145-0008	Manhole Cover Arrangement for Pump Room Deck	Rev 60, IFC	7/1/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	
1440-50-MO-DG-145-0008	Manhole Cover Arrangement for Pump Room Deck	Rev 60, IFC	7/1/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	
1440-50-MO-DG-145-0008	Manhole Cover Arrangement for Pump Room Deck	Rev 60, IFC	7/1/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	
1440-50-MO-DG-145-0008	Manhole Cover Arrangement for Pump Room Deck	Rev 60, IFC	7/1/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	
1440-50-MO-DG-145-0008	Manhole Cover Arrangement for Pump Room Deck	Rev 60, IFC	7/1/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	
1440-50-MO-DG-145-0007	Manhole Cover Arrangement for Pontoon Deck	Rev 60, IFC	7/1/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	
1440-50-MO-DG-145-0007	Manhole Cover Arrangement for Pontoon Deck	Rev 60, IFC	7/1/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	
1440-50-MO-DG-145-0007	Manhole Cover Arrangement for Pontoon Deck	Rev 60, IFC	7/1/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	
1440-50-MO-DG-145-0007	Manhole Cover Arrangement for Pontoon Deck	Rev 60, IFC	7/1/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	
1440-50-MO-DG-145-0006	Manhole Cover Arrangement for Column	Rev 60, IFC	7/1/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	
1440-50-MO-DG-145-0006/7	Manhole Cover Arrangement for Column	Rev 60, IFC	7/1/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	
1440-50-MO-DG-145-0005	Manhole Cover Arrangement for Column	Rev 60, IFC	7/1/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	
1440-50-MO-DG-145-0005	Manhole Cover Arreangement for Box Bottom	Rev 60, IFC	7/11/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	The DSME drawing number is different from the one above (Same Number; different drawing title).
1440-50-MO-DG-145-0004	Manhole Cover Arrangement for Lower Deck	Rev 60, IFC	7/11/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	
1440-50-MO-DG-145-0004	Manhole Cover Arrangement for Lower Deck	Rev 60, IFC	7/11/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	
1440-50-MO-DG-145-0004	Manhole Cover Arrangement for Lower Deck	Rev 60, IFC	7/11/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	
1440-50-MO-DG-145-0004	Manhole Cover Arrangement for Lower Deck	Rev 60, IFC	7/11/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	
1440-50-MO-DG-145-0003	Manhole Cover Arrangement for Tween Deck	Rev 60, IFC	7/11/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	
1440-50-MO-DG-145-0003	Manhole Cover Arrangement for Tween Deck	Rev 60, IFC	7/11/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	
1440-50-MO-DG-145-0003	Manhole Cover Arrangement for Tween Deck	Rev 60, IFC	7/11/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	
1440-50-MO-DG-145-0003	Manhole Cover Arrangement for Tween Deck	Rev 60, IFC	7/11/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	
1440-50-MO-DG-145-0002	Manhole Cover Arrangement for Main Deck and Deckhouse	Rev 60, IFC	7/11/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	
1440-50-MO-DG-145-0002	Manhole Cover Arrangement for Main Deck and Deckhouse	Rev 60, IFC	7/11/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	
	Manhole Cover Detail (Pontoon, Column Area)	Rev 60, IFC	7/1/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	
	Manhole Cover Detail (Pontoon, Column Area)	Rev 60, IFC	7/1/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	
	Manhole Cover Detail (Pontoon, Column Area)	Rev 60, IFC	7/1/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	
	Manhole Cover Detail (Pontoon, Column Area)	Rev 60, IFC	7/1/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	
	Manhole Cover Detail (Pontoon, Column Area)	Rev 60, IFC	7/1/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	
	Manhole Cover Detail (Pontoon, Column Area)	Rev 60, IFC	7/1/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	
1440-50-MO-DG-145-0008	Hatch Arragement - Lower Hull	Rev 60, IFC	6/18/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	Repeated DWG number, but with different origination date.
1440-50-MO-DG-145-0008	Hatch Arragement - Lower Hull	Rev 60, IFC	6/18/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	Repeated DWG number, but with different origination date.
1440-50-MO-DG-145-0008	Hatch Arragement - Lower Hull	Rev 60, IFC	6/18/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	Repeated DWG number, but with different origination date.
1440-50-MO-DG-145-0008	Hatch Arragement - Lower Hull	Rev 60, IFC	6/18/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	Repeated DWG number, but with different origination date.
1440-50-MO-DG-145-0008	Hatch Arragement - Lower Hull	Rev 60, IFC	6/18/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	Repeated DWG number, but with different origination date.
1440-50-MO-DG-145-0004	Hatch Arrangement - Lower Deck	Rev 60, IFC	8/15/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	Repeated DWG number, but with different origination date.
1440-50-MO-DG-145-0004	Hatch Arrangement - Lower Deck	Rev 60, IFC	8/15/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	Repeated DWG number, but with different origination date.
1440-50-MO-DG-145-0004	Hatch Arrangement - Lower Deck	Rev 60, IFC	8/15/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	Repeated DWG number, but with different origination date.

MS8-5: Todd Production Inventory (Book 04)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engr Contractor	
1440-50-MO-DG-145-0004	Hatch Arrangement - Lower Deck	Rev 60, IFC	8/15/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	Repeated DWG number, but with different origination date.
1440-50-MO-DG-145-0004	Hatch Arrangement - Lower Deck	Rev 60, IFC	8/15/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	Repeated DWG number, but with different origination date.
1440-50-MO-DG-145-0004	Hatch Arrangement - Lower Deck	Rev 60, IFC	8/15/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	Repeated DWG number, but with different origination date.
1440-50-MO-DG-145-0002	Hatch Arrangement - Main Deck	Rev 60, IFC	8/15/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	Repeated DWG number, but with different origination date.
1440-50-MO-DG-145-0002	Hatch Arrangement - Main Deck	Rev 60, IFC	8/15/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	Repeated DWG number, but with different origination date.
1440-50-MO-DG-145-0001	Hatch Arrangement - Deckhouse	Rev 60, IFC	8/15/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	Repeated DWG number, but with different origination date.
1440-50-MO-DG-145-0001	Hatch Arrangement - Deckhouse	Rev 60, IFC	8/15/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	Repeated DWG number, but with different origination date.
1440-50-MO-DG-145-0001	Hatch Arrangement - Deckhouse	Rev 60, IFC	8/15/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	Repeated DWG number, but with different origination date.
1440-50-MO-DG-145-0001	Hatch Arrangement - Deckhouse	Rev 60, IFC	8/15/03	3/31/05			NO		Rev 60			Access Hatchet and Manhole Cover	NO		DSME	Repeated DWG number, but with different origination date.
	Hatch Detail - Upper Hull	Rev 60, IFC					NO					Access Hatchet and Manhole Cover	NO		DSME	
1440-50-MO-DG-234-0020	Towing System Bracket & Bollards Arranegement Top View						NO		Rev 60			Towing System	NO		DSME	The 1st, 3rd and 4th sheet of this drawing are missing, therefore no revision date information was available.
1440-50-MO-DG-234-0020	Towing System Bracket & Bollards Arranegement Top View						NO		Rev 60			Towing System	NO		DSME	The 1st, 3rd and 4th sheet of this drawing are missing, therefore no revision date information was available.
1440-50-MO-DG-234-0021	Towing System Brackets & Bollards Arranegement Side View						NO		Rev 60			Towing System	NO		DSME	The first sheet of this drawing is missing, therefore no revision date data was available.
1440-50-MO-DG-234-0021	Towing System Brackets & Bollards Arranegement Side View						NO		Rev 60			Towing System	NO		DSME	The first sheet of this drawing is missing, therefore no revision date data was available.
1440-50-MO-DG-234-0022	Towing System Brackets & Bollards Arrangement Summary Table						NO		Rev 60			Towing System	NO		DSME	The first sheet of this drawing is missing, therefore no revision date data was available.
1440-50-MO-DG-234-0023	Towing System Brackets & Bollards Arranegemtn Working Angles						NO		Rev 60			Towing System	NO		DSME	The first sheet of this drawing is missing, therefore no revision date data was available.
	Towing System Single Cross Bollard & Tug Lug Detail						NO		Rev 60			Towing System	NO		DSME	The first sheet of this drawing is missing, therefore no revision date data was available. No BP DWG number was noted.
	Towing System Single Cross Bollard & Tug Lug Detail						NO		Rev 60			Towing System	NO		DSME	The first sheet of this drawing is missing, therefore no revision date data was available. No BP DWG number was noted.
	Towing System Single Cross Bollard & Tug Lug Detail						NO		Rev 60			Towing System	NO		DSME	The first sheet of this drawing is missing, therefore no revision date data was available. No BP DWG number was noted.
	Towing System Push Boat Point Detail						NO		Rev 60			Towing System	NO		DSME	The first sheet of this drawing is missing, therefore no revision date data was available. No BP DWG number was noted.
	Towing System Push Boat Point Detail						NO		Rev 60			Towing System	NO		DSME	The first sheet of this drawing is missing, therefore no revision date data was available. No BP DWG number was noted.
	Towing System Push Boat Point Detail						NO		Rev 60			Towing System	NO		DSME	The first sheet of this drawing is missing, therefore no revision date data was available. No BP DWG number was noted.
	Towing System Push Boat Point Detail						NO		Rev 60			Towing System	NO		DSME	The first sheet of this drawing is missing, therefore no revision date data was available. No BP DWG number was noted.
	Tow System Lashing Bars for Tow Lines						NO		Rev 60			Towing System	NO		DSME	The first sheet of this drawing is missing, therefore no revision date data was available. No BP DWG number was noted.
	Tow System Lashing Bars for Tow Lines						NO		Rev 60			Towing System	NO		DSME	The first sheet of this drawing is missing, therefore no revision date data was available. No BP DWG number was noted.
	Tow System Lashing Bars for Tow Lines						NO		Rev 60			Towing System	NO		DSME	The first sheet of this drawing is missing, therefore no revision date data was available. No BP DWG number was noted.
	Tow System Lashing Bars for Tow Lines						NO		Rev 60			Towing System	NO		DSME	The first sheet of this drawing is missing, therefore no revision date data was available. No BP DWG number was noted.
	Tow System Lashing Bars for Tow Lines						NO		Rev 60			Towing System	NO		DSME	The first sheet of this drawing is missing, therefore no revision date data was available. No BP DWG number was noted.
	Tow System Lashing Bars for Tow Lines						NO		Rev 60			Towing System	NO		DSME	The first sheet of this drawing is missing, therefore no revision date data was available. No BP DWG number was noted.
	Tow System Lashing Bars for Tow Lines						NO		Rev 60			Towing System	NO		DSME	The first sheet of this drawing is missing, therefore no revision date data was available. No BP DWG number was noted.
	Tow System Lashing Bars for Tow Lines						NO		Rev 60			Towing System	NO		DSME	The first sheet of this drawing is missing, therefore no revision date data was available. No BP DWG number was noted.
	Tow System Lashing Bars for Tow Lines						NO		Rev 60			Towing System	NO		DSME	The first sheet of this drawing is missing, therefore no revision date data was available. No BP DWG number was noted.
	Tow System Lashing Bars for Tow Lines						NO		Rev 60			Towing System	NO		DSME	The first sheet of this drawing is missing, therefore no revision date data was available. No BP DWG number was noted.
	Tow System Lashing Bars for Tow Lines						NO		Rev 60			Towing System	NO		DSME	The first sheet of this drawing is missing, therefore no revision date data was available. No BP DWG number was noted.
	Tow System Lashing Bars for Tow Lines						NO		Rev 60			Towing System	NO		DSME	The first sheet of this drawing is missing, therefore no revision date data was available. No BP DWG number was noted.

MS8-5: Todd Production Inventory (Book 04)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engr Contractor	
	Tow System Lashing Bars for Tow Lines						NO		Rev 60			Towing System	NO		DSME	The first sheet of this drawing is missing, therefore no revision date data was available. No BP DWG number was noted.
	Tow System Lashing Bars for Tow Lines						NO		Rev 60			Towing System	NO		DSME	The first sheet of this drawing is missing, therefore no revision date data was available. No BP DWG number was noted.
	Tow System Lashing Bars for Tow Lines						NO		Rev 60			Towing System	NO		DSME	The first sheet of this drawing is missing, therefore no revision date data was available. No BP DWG number was noted.
	Tow System Lashing Bars for Tow Lines						NO		Rev 60			Towing System	NO		DSME	The first sheet of this drawing is missing, therefore no revision date data was available. No BP DWG number was noted.
	Tow System Lashing Bars for Tow Lines						NO		Rev 60			Towing System	NO		DSME	The first sheet of this drawing is missing, therefore no revision date data was available. No BP DWG number was noted.
	Tow System Lashing Bars for Tow Lines						NO		Rev 60			Towing System	NO		DSME	The first sheet of this drawing is missing, therefore no revision date data was available. No BP DWG number was noted.
	Tow System Lashing Bars for Tow Lines						NO		Rev 60			Towing System	NO		DSME	The first sheet of this drawing is missing, therefore no revision date data was available. No BP DWG number was noted.
	Tow System Lashing Bars for Tow Lines						NO		Rev 60			Towing System	NO		DSME	The first sheet of this drawing is missing, therefore no revision date data was available. No BP DWG number was noted.
	Tow System Lashing Bars for Tow Lines						NO		Rev 60			Towing System	NO		DSME	The first sheet of this drawing is missing, therefore no revision date data was available. No BP DWG number was noted.
	Tow System Lashing Bars for Tow Lines						NO		Rev 60			Towing System	NO		DSME	The first sheet of this drawing is missing, therefore no revision date data was available. No BP DWG number was noted.
	Temporary Access and Traffic Facilities for Dry Tow	Rev 60, IFC	3/9/04	3/31/05			NO		Rev 60			Towing System	NO		DSME	No BP DWG number was provided.
	Temporary Access and Traffic Facilities for Dry Tow	Rev 60, IFC	3/9/04	3/31/05			NO		Rev 60			Towing System	NO		DSME	No BP DWG number was provided.
	Temporary Access and Traffic Facilities for Dry Tow	Rev 60, IFC	3/9/04	3/31/05			NO		Rev 60			Towing System	NO		DSME	No BP DWG number was provided.
	Temporary Access and Traffic Facilities for Dry Tow	Rev 60, IFC	3/9/04	3/31/05			NO		Rev 60			Towing System	NO		DSME	No BP DWG number was provided.
	Temporary Access and Traffic Facilities for Dry Tow	Rev 60, IFC	3/9/04	3/31/05			NO		Rev 60			Towing System	NO		DSME	No BP DWG number was provided.
	Mechnical Equipment Arrangement SCR Hang Off	Rev 60, IFC	9/19/03	3/31/05			NO		Rev 60			SCR and Umbilical Pull In Layout	NO		DSME	
1440-50-GE-DG-030-0104	Mechnical Equipment Arrangement SCR Hang Off	Rev 60	9/19/03	3/31/05			NO		Rev 60			SCR and Umbilical Pull In Layout	NO		DSME	
1440-50-MU-DG-830-5020	Mechnical Equipment Arrangement SCR Hang Off	Rev 60					NO		Rev 60			SCR and Umbilical Pull In Layout	NO		DSME	This drawing has a different drawing number but appears to be listed as the third page of the one above, but ref's trhe same name.
1440-50-MU-DG-830-5022	Mechnical Equipment Arrangement SCR Hang Off	Rev 60					NO		Rev 60			SCR and Umbilical Pull In Layout	NO		DSME	Similar situation as above, same name with diff drawing number.
1440-50-MU-DG-830-5023, 5024	Mechnical Equipment Arrangement SCR Hang Off	Rev 60					NO		Rev 60			SCR and Umbilical Pull In Layout	NO		DSME	Similar situation as above, same name with diff drawing number.
1440-50-MU-DG-830- 5025	Mechnical Equipment Arrangement SCR Hang Off	Rev 60					NO		Rev 60			SCR and Umbilical Pull In Layout	NO		DSME	Similar situation as above, same name with diff drawing number.
	Funnel For Riser Receptacle	Rev 60					NO		Rev 60			SCR and Umbilical Pull In Layout			DSME	
	Diver Rigging Pt for MGTS Spool Piece Installation	Rev 60					NO		Rev 60			SCR and Umbilical Pull In Layout			DSME	
	Padeye For MGTS Spool Piece Installation	Rev 60					NO		Rev 60			SCR and Umbilical Pull In Layout			DSME	
1440-50-MU-DG-830-5021	Mechanical Equipment Arrangement - SCR & Umbilical Pull	Rev 60					NO		Rev 60			SCR and Umbilical Pull In Layout	NO		DSME	First drawing missing, no date data available. No BP DWG number was provided.
1440-50-MU-DG-830-5021	Mechanical Equipment Arrangement - SCR & Umbilical Pull	Rev 60					NO		Rev 60			SCR and Umbilical Pull In Layout	NO		DSME	First drawing missing, no date data available. No BP DWG number was provided.
1440-50-MU-DG-830-5021	Mechanical Equipment Arrangement - SCR & Umbilical Pull	Rev 60					NO		Rev 60			SCR and Umbilical Pull In Layout	NO		DSME	First drawing missing, no date data available. No BP DWG number was provided.
1440-50-MU-DG-830-5021	Mechanical Equipment Arrangement - SCR & Umbilical Pull	Rev 60					NO		Rev 60			SCR and Umbilical Pull In Layout	NO		DSME	First drawing missing, no date data available. No BP DWG number was provided.
1440-50-MU-DG-830-5021	Mechanical Equipment Arrangement - SCR & Umbilical Pull	Rev 60					NO		Rev 60			SCR and Umbilical Pull In Layout	NO		DSME	First drawing missing, no date data available. No BP DWG number was provided.
1440-50-MU-DG-830-5020	Mechnical Equipment Arrangement SCR Hang Off	Rev 60					NO		Rev 60			SCR and Umbilical Pull In Layout	NO		DSME	This drawing has a different drawing number but appears to be listed as the third page of the one above, but ref's trhe same name.
1440-50-MU-DG-830-5022	Mechnical Equipment Arrangement SCR Hang Off	Rev 60					NO		Rev 60			SCR and Umbilical Pull In Layout	NO		DSME	Similar situation as above, same name with diff drawing number.
1440-50-MU-DG-830- 5025	Mechnical Equipment Arrangement SCR Hang Off	Rev 60					NO		Rev 60			SCR and Umbilical Pull In Layout	NO		DSME	Similar situation as above, same name with diff drawing number.
	Mechanical Equipment Arrangement - SCR & Umbilical Pull	Rev 60					NO		Rev 60			SCR and Umbilical Pull In Layout	NO		DSME	First drawing missing, no date data available. No BP DWG number was provided.
1440-50-MO-DG-143-0005	Arr't of Fire Door for Upper Hull (Main Deck)	Rev 60, IFC	9/20/03	3/31/05			NO		Rev 60			Steel Door	NO		DSME	
1440-50-MO-DG-143-0006	Arr't of Fire Door for Upper Hull (Tween Deck)	Rev 60, IFC	9/20/03	3/31/05			NO		Rev 60			Steel Door	NO		DSME	
1440-50-MO-DG-143-0007	Arr't of Fire Door for Upper Deck (Lower Deck)	Rev 60, IFC	9/20/03	3/31/05			NO		Rev 60			Steel Door	NO		DSME	
1440-50-MO-DG-143-0001	Watertight Sliding Door List						NO		Rev 60			Steel Door	NO		DSME	First drawing missing, no date data
1440-50-MU-DG-143-0008	Watertight Sliding Door List - Lower Hull	Rev 60, IFC	10/9/03	3/31/05			NO		Rev 60			Steel Door	NO		DSME	
1440-50-MU-DG-143-0008	Watertight Sliding Door List - Lower Hull	Rev 60, IFC	10/9/03	3/31/05			NO		Rev 60			Steel Door	NO		DSME	

MS8-5: Todd Production Inventory (Book 04)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engr Contractor											
1440-50-MU-DG-143-0008	Watertight Sliding Door List - Lower Hull	Rev 60, IFC	10/9/03	3/31/05			NO		Rev 60			Steel Door	NO		DSME											
1440-50-MU-DG-143-0008	Watertight Sliding Door List - Lower Hull	Rev 60, IFC	10/9/03	3/31/05			NO		Rev 60			Steel Door	NO		DSME											
1440-50-MU-DG-143-0008	Watertight Sliding Door List - Lower Hull	Rev 60, IFC	10/9/03	3/31/05			NO		Rev 60			Steel Door	NO		DSME											
1440-50-MO-DG-261-0001	Lifeboats Systems (Life rafts, Davits, Rescue Boats) North Lifeboat Station	Rev 10, BP Final Handover		4/5/07			NO		Rev 10			Lifeboats	NO		DSME											
1440-50-MO-DG-261-0001	South Lifeboat Station	Rev 10, BP Final Handover		4/5/07			NO		Rev 10			Lifeboats	NO		DSME											
1440-50-MO-DG-261-0001	Fast Rescue Boat	Rev 10, BP Final Handover		4/5/07			NO		Rev 10			Lifeboats	NO		DSME											
1440-50-MO-DG-261-0001	Lifeboat Station Sections	Rev 10, BP Final Handover		4/5/07			NO		Rev 10			Lifeboats	NO		DSME											
1440-50-MO-DG-261-0001	Davit Sections	Rev 10, BP Final Handover		4/5/07			NO		Rev 10			Lifeboats	NO		DSME											
1440-50-MO-DG-261-0001	Life Raft Davit Foundation Details	Rev 10, BP Final Handover		4/5/07			NO		Rev 10			Lifeboats	NO		DSME											
1440-20-ST-DG-2482-002	Module Installation Bumper and Guide	Rev 60, As-Built	6/1/04	3/28/05			NO		Rev 60			Module Installation Guides	NO		DSME	Note that this drawing has a note under the title box with a ref. to "AS BUILT"										
1440-20-ST-DG-2428-003	Module Installation Bumper and Guide	Rev 60, IFC	6/1/04	3/28/05			NO		Rev 60			Module Installation Guides	NO		DSME											
1440-20-ST-DG-3428-001	Module Installation Bumper and Guide	Rev 60, IFC	6/1/04	3/28/05			NO		Rev 60			Module Installation Guides	NO		DSME											
1440-20-ST-DG-3428-002	Module Installation Bumper and Guide	Rev 60, IFC	6/1/04	3/28/05			NO		Rev 60			Module Installation Guides	NO		DSME											
1440-20-ST-DG-3482-003	Module Installation Bumper and Guide	Rev 60, IFC	6/1/04	3/28/05			NO		Rev 60			Module Installation Guides	NO		DSME											
1440-20-ST-DG-1482-002	Module Installation Bumper and Guide	Rev 60, IFC	6/1/04	3/28/05			NO		Rev 60			Module Installation Guides	NO		DSME											
1440-20-ST-DG-1482-003	Module Installation Bumper and Guide	Rev 60, IFC	6/1/04	3/28/05			NO		Rev 60			Module Installation Guides	NO		DSME											
1440-20-ST-DG-1482-004	Module Installation Bumper and Guide	Rev 60, IFC	6/1/04	3/28/05			NO		Rev 60			Module Installation Guides	NO		DSME											
1440-50-MO-DG-231-0001	Mooring System Arrangement (Winch Arrangement - Tween Deck)						NO		Rev 60			Mooring	NO		DSME											
1440-50-MO-DG-231-0002	Mooring System Arrangement (Winch Arrangement (Lower Deck)						NO		Rev 60			Mooring	NO		DSME											
1440-50-MO-DG-231-0003	Mooring System Arrangement (Fairland Arrangement)						NO		Rev 60			Mooring	NO		DSME											
1440-50-MO-DG-231-0004	Mooring System Arrangement (Side View Mooring System)						NO		Rev 60			Mooring	NO		DSME											
1440-50-MO-DG-231-0005	Mooring System Arrangement (Equipment Location)						NO		Rev 60			Mooring	NO		DSME											
1440-50-MO-DG-231-0006	Mooring System Arrangement (Fairing Lashing / Hang-Off)						NO		Rev 60			Mooring	NO		DSME											
	Mooring System Arrangement (Runway H-Beam)						NO		Rev 60			Mooring	NO		DSME											
1440-50-MO-DG-231-0007	Mooring System Arrangement (Wooden Protection)						NO		Rev 60			Mooring	NO		DSME											
1440-50-MO-DG-231-0007	Mooring System Arrangement (Wooden Protection)						NO		Rev 60			Mooring	NO		DSME											
	Mooring System Arrangement (Lug & Chain Defelctor)						NO		Rev 60			Mooring	NO		DSME											
	Mooring System Arrangement (Lug & Chain Defelctor)						NO		Rev 60			Mooring	NO		DSME											
	Mooring System Arrangement (Messenger Chain Handling)						NO		Rev 60			Mooring	NO		DSME											
	Mooring System Arrangement (Messenger Chain Handling)						NO		Rev 60			Mooring	NO		DSME											
	Mooring System Arrangement (Messenger Chain Handling)						NO		Rev 60			Mooring	NO		DSME											
	Mooring System Arrangement (Messenger Chain Handling)						NO		Rev 60			Mooring	NO		DSME											
	Mooring System Arrangement (Forerunner Hang Off for Fairland)						NO		Rev 60			Mooring	NO		DSME											
	Mooring System Arrangement (Forerunner Hang Off for Fairland)						NO		Rev 60			Mooring	NO		DSME											
	Mooring System Arrangement (Forerunner Hang Off for Fairland)						NO		Rev 60			Mooring	NO		DSME											

MS8-5: Todd Production Inventory (Book 04)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engr Contractor
	Mooring System Arrangement Double Plate for Air Tugger						NO		Rev 60			Mooring	NO		DSME
	Mooring System Arrangement Double Plate for Air Tugger						NO		Rev 60			Mooring	NO		DSME
	Mooring System Arrangement (Messenger Chain Handling SW)						NO		Rev 60			Mooring	NO		DSME
	Mooring System Arrangement (Messenger Chain Handling SW)						NO		Rev 60			Mooring	NO		DSME
	Mooring System Arrangement (Messenger Chain Handling SW)						NO		Rev 60			Mooring	NO		DSME
	Mooring System Arrangement (Messenger Chain Handling SE)						NO		Rev 60			Mooring	NO		DSME
	Mooring System Arrangement (Messenger Chain Handling SE)						NO		Rev 60			Mooring	NO		DSME
	Mooring System Arrangement (Messenger Chain Handling SE)						NO		Rev 60			Mooring	NO		DSME
1440-50-MO-DG-231-0007	Mooring System Arrangement (Wooden Protection SW/ SE)						NO		Rev 60			Mooring	NO		DSME
1440-50-MO-DG-231-0007	Mooring System Arrangement (Wooden Protection SW/ SE)						NO		Rev 60			Mooring	NO		DSME
1440-50-MO-DG-231-0001	Mooring System - Mooring Winch Room Arr't	Rev 60, IFC	8/14/03	3/31/05			NO		Rev 60			Mooring	NO		DSME
1440-50-MO-DG-231-0001	Mooring System - Mooring Winch Room Arr't	Rev 60, IFC	8/14/03	3/31/05			NO		Rev 60			Mooring	NO		DSME
1440-50-MO-DG-231-0001	Mooring System - Mooring Winch Room Arr't	Rev 60, IFC	8/14/03	3/31/05			NO		Rev 60			Mooring	NO		DSME
1440-50-MO-DG-231-0001	Mooring System - Mooring Winch Room Arr't	Rev 60, IFC	8/14/03	3/31/05			NO		Rev 60			Mooring	NO		DSME
1440-50-MO-DG-231-0001	Mooring System - Mooring Winch Room Arr't	Rev 60, IFC	8/14/03	3/31/05			NO		Rev 60			Mooring	NO		DSME
1440-50-MO-DG-231-0001	Mooring System - Mooring Winch Room Arr't	Rev 60, IFC	8/14/03	3/31/05			NO		Rev 60			Mooring	NO		DSME
1440-50-MO-DG-231-0001	Mooring System - Mooring Winch Room Arr't	Rev 60, IFC	8/14/03	3/31/05			NO		Rev 60			Mooring	NO		DSME
1440-50-MO-DG-231-0001	Mooring System - Mooring Winch Room Arr't	Rev 60, IFC	8/14/03	3/31/05			NO		Rev 60			Mooring	NO		DSME
1440-50-MO-DG-231-0001	Mooring System - Mooring Winch Room Arr't	Rev 60, IFC	8/14/03	3/31/05			NO		Rev 60			Mooring	NO		DSME
1440-50-MO-DG-231-0001	Mooring System - Mooring Winch Room Arr't	Rev 60, IFC	8/14/03	3/31/05			NO		Rev 60			Mooring	NO		DSME
1440-50-MO-DG-231-0001	Mooring System - Mooring Winch Room Arr't	Rev 60, IFC	8/14/03	3/31/05			NO		Rev 60			Mooring	NO		DSME
1440-50-MO-DG-231-0001	Mooring System - Mooring Winch Room Arr't	Rev 60, IFC	8/14/03	3/31/05			NO		Rev 60			Mooring	NO		DSME
1440-50-MO-DG-231-0001	Mooring System - Mooring Winch Room Arr't	Rev 60, IFC	8/14/03	3/31/05			NO		Rev 60			Mooring	NO		DSME
1440-50-MO-DG-231-0001	Mooring System - Mooring Winch Room Arr't	Rev 60, IFC	8/14/03	3/31/05			NO		Rev 60			Mooring	NO		DSME
1440-50-MO-DG-231-0001	Mooring System - Mooring Winch Room Arr't	Rev 60, IFC	8/14/03	3/31/05			NO		Rev 60			Mooring	NO		DSME
1440-50-MO-DG-231-0001	Mooring System - Mooring Winch Room Arr't	Rev 60, IFC	8/14/03	3/31/05			NO		Rev 60			Mooring	NO		DSME
1440-50-MO-DG-231-0001	Mooring System - Mooring Winch Room Arr't	Rev 60, IFC	8/14/03	3/31/05			NO		Rev 60			Mooring	NO		DSME
1440-50-MO-DG-231-0001	Mooring System - Mooring Winch Room Arr't	Rev 60, IFC	8/14/03	3/31/05			NO		Rev 60			Mooring	NO		DSME
1440-50-MO-DG-231-0001	Mooring System - Mooring Winch Room Arr't	Rev 60, IFC	8/14/03	3/31/05			NO		Rev 60			Mooring	NO		DSME
1440-50-MO-DG-231-0001	Mooring System - Mooring Winch Room Arr't	Rev 60, IFC	8/14/03	3/31/05			NO		Rev 60			Mooring	NO		DSME
1440-50-MO-DG-231-0001	Mooring System - Mooring Winch Room Arr't	Rev 60, IFC	8/14/03	3/31/05			NO		Rev 60			Mooring	NO		DSME
1440-50-MO-DG-231-0001	Mooring System - Mooring Winch Room Arr't	Rev 60, IFC	8/14/03	3/31/05			NO		Rev 60			Mooring	NO		DSME
1440-50-MO-DG-231-0001	Mooring System - Mooring Winch Room Arr't	Rev 60, IFC	8/14/03	3/31/05			NO		Rev 60			Mooring	NO		DSME
1440-50-MO-DG-231-0001	Mooring System - Mooring Winch Room Arr't	Rev 60, IFC	8/14/03	3/31/05			NO		Rev 60			Mooring	NO		DSME
1440-50-MO-DG-231-0001	Mooring System - Mooring Winch Room Arr't	Rev 60, IFC	8/14/03	3/31/05			NO		Rev 60			Mooring	NO		DSME
1440-50-MO-DG-231-0001	Mooring System - Mooring Winch Room Arr't	Rev 60, IFC	8/14/03	3/31/05			NO		Rev 60			Mooring	NO		DSME
1440-50-MO-DG-231-0001	Mooring System - Mooring Winch Room Arr't	Rev 60, IFC	8/14/03	3/31/05			NO		Rev 60			Mooring	NO		DSME
1440-50-MO-DG-231-0001	Mooring System - Mooring Winch Room Arr't	Rev 60, IFC	8/14/03	3/31/05			NO		Rev 60			Mooring	NO		DSME
1440-50-MO-DG-231-0001	Mooring System - Mooring Winch Room Arr't	Rev 60, IFC	8/14/03	3/31/05			NO		Rev 60			Mooring	NO		DSME
1440-50-MO-DG-231-0001	Mooring System - Mooring Winch Room Arr't	Rev 60, IFC	8/14/03	3/31/05			NO		Rev 60			Mooring	NO		DSME
1440-50-MO-DG-231-0001	Mooring System - Mooring Winch Room Arr't	Rev 60, IFC	8/14/03	3/31/05			NO		Rev 60			Mooring	NO		DSME
1440-50-MO-DG-231-0003	Mooring System - (Fairlead Installation)	Rev 60, IFC	8/12/03	3/31/05			NO		Rev 60			Mooring	NO		DSME
1440-50-MO-DG-231-0003	Mooring System - (Fairlead Installation)	Rev 60, IFC	8/12/03	3/31/05			NO		Rev 60			Mooring	NO		DSME
1440-50-MO-DG-231-0003	Mooring System - (Fairlead Installation)	Rev 60, IFC	8/12/03	3/31/05			NO		Rev 60			Mooring	NO		DSME
1440-50-MO-DG-231-0003	Mooring System - (Fairlead Installation)	Rev 60, IFC	8/12/03	3/31/05			NO		Rev 60			Mooring	NO		DSME
1440-50-MO-DG-231-0003	Mooring System - (Fairlead Installation)	Rev 60, IFC	8/12/03	3/31/05			NO		Rev 60			Mooring	NO		DSME
1440-50-MO-DG-231-0003	Mooring System - (Fairlead Installation)	Rev 60, IFC	8/12/03	3/31/05			NO		Rev 60			Mooring	NO		DSME
1440-50-MO-DG-231-0003	Mooring System - (Fairlead Installation)	Rev 60, IFC	8/12/03	3/31/05			NO		Rev 60			Mooring	NO		DSME
1440-50-MO-DG-231-0003	Mooring System - (Fairlead Installation)	Rev 60, IFC	8/12/03	3/31/05			NO		Rev 60			Mooring	NO		DSME
1440-50-MO-DG-231-0003	Mooring System - (Fairlead Installation)	Rev 60, IFC	8/12/03	3/31/05			NO		Rev 60			Mooring	NO		DSME
1440-50-MO-DG-231-0003	Mooring System - (Fairlead Installation)	Rev 60, IFC	8/12/03	3/31/05			NO		Rev 60			Mooring	NO		DSME

MS8-5: Todd Production Inventory (Book 04)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engr Contractor	
1440-50-MO-DG-231-0003	Mooring System - (Fairlead Installation)	Rev 60, IFC	8/12/03	3/31/05			NO		Rev 60			Mooring	NO		DSME	
1440-50-MO-DG-231-0003	Mooring System - (Fairlead Installation)	Rev 60, IFC	8/12/03	3/31/05			NO		Rev 60			Mooring	NO		DSME	
1440-50-MO-DG-231-0003	Mooring System - (Fairlead Installation)	Rev 60, IFC	8/12/03	3/31/05			NO		Rev 60			Mooring	NO		DSME	
1440-50-MO-DG-231-0003	Mooring System - (Fairlead Installation)	Rev 60, IFC	8/12/03	3/31/05			NO		Rev 60			Mooring	NO		DSME	
1440-50-MO-DG-231-0001	Mooring System - Hydraulic Power Room	Rev 60, IFC	7/9/03	3/31/05			NO		Rev 60			Mooring	NO		DSME	
1440-50-MO-DG-231-0001	Mooring System - Hydraulic Power Room	Rev 60, IFC	7/9/03	3/31/05			NO		Rev 60			Mooring	NO		DSME	
1440-50-MO-DG-231-0001	Mooring System - Hydraulic Power Room	Rev 60, IFC	7/9/03	3/31/05			NO		Rev 60			Mooring	NO		DSME	
1440-50-MO-DG-231-0001	Mooring System - Hydraulic Power Room	Rev 60, IFC	7/9/03	3/31/05			NO		Rev 60			Mooring	NO		DSME	
	Mooring System - Chain Pipe Cover Detail	Rev 60, IFC	4/1/04	3/31/05			NO		Rev 60			Mooring	NO		DSME	
	Mooring System - Chain Pipe Cover Detail	Rev 60, IFC	4/1/04	3/31/05			NO		Rev 60			Mooring	NO		DSME	
	Mooring System - Chain Pipe Cover Detail	Rev 60, IFC	4/1/04	3/31/05			NO		Rev 60			Mooring	NO		DSME	
	Mooring System - Chain Pipe Cover Detail	Rev 60, IFC	4/1/04	3/31/05			NO		Rev 60			Mooring	NO		DSME	
	Mooring System - Chain Pipe Cover Detail	Rev 60, IFC	4/1/04	3/31/05			NO		Rev 60			Mooring	NO		DSME	
1440-50-MO-DG-119-1200	Helideck and Support Structure	Rev 60, As-Built	11/25/03	3/28/05			NO		Rev 60			Helideck	NO		DSME	
1440-50-MO-DG-119-1202	Helideck and Support Structure	Rev 60, IFC	11/25/03	3/28/05			NO		Rev 60			Helideck	NO		DSME	
1440-50-MO-DG-119-1203	Helideck and Support Structure	Rev 60, As-Built	11/25/03	3/28/05			NO		Rev 60			Helideck	NO		DSME	
1440-50-MO-DG-119-1204	Helideck and Support Structure	Rev 60, IFC	11/25/03	3/28/05			NO		Rev 60			Helideck	NO		DSME	
1440-50-MO-DG-119-1205	Helideck and Support Structure	Rev 60, IFC	11/25/03	3/28/05			NO		Rev 60			Helideck	NO		DSME	
1440-50-MO-DG-119-	Helideck and Support Structure	Rev 60, IFC	11/25/03	3/28/05			NO		Rev 60			Helideck	NO		DSME	
1440-50-MO-DG-119-0001	Helideck Ladder Stair & Walkway	Rev 60, IFC	9/22/03	3/31/05			NO		Rev 60			Helideck	NO		DSME	
1440-50-MO-DG-119-0001	Helideck Ladder Stair & Walkway	Rev 60, IFC	9/22/03	3/31/05			NO		Rev 60			Helideck	NO		DSME	
1440-50-MO-DG-119-0001	Helideck Ladder Stair & Walkway	Rev 60, IFC	9/22/03	3/31/05			NO		Rev 60			Helideck	NO		DSME	
1440-50-MO-DG-119-0001	Helideck Ladder Stair & Walkway	Rev 60, IFC	9/22/03	3/31/05			NO		Rev 60			Helideck	NO		DSME	
1440-50-MO-DG-119-0001	Helideck Ladder Stair & Walkway	Rev 60, IFC	9/22/03	3/31/05			NO		Rev 60			Helideck	NO		DSME	
1440-50-MO-DG-119-0001	Helideck Ladder Stair & Walkway	Rev 60, IFC	9/22/03	3/31/05			NO		Rev 60			Helideck	NO		DSME	
1440-50-MO-DG-119-0001	Helideck Ladder Stair & Walkway	Rev 60, IFC	9/22/03	3/31/05			NO		Rev 60			Helideck	NO		DSME	
1440-50-MO-DG-119-0001	Helideck Ladder Stair & Walkway	Rev 60, IFC	9/22/03	3/31/05			NO		Rev 60			Helideck	NO		DSME	
1440-50-MO-DG-119-0001	Helideck Ladder Stair & Walkway	Rev 60, IFC	9/22/03	3/31/05			NO		Rev 60			Helideck	NO		DSME	
1440-50-MO-DG-119-0001	Helideck Ladder Stair & Walkway	Rev 60, IFC	9/22/03	3/31/05			NO		Rev 60			Helideck	NO		DSME	
1440-50-MO-DG-119-0001	Helideck Arrangement Section View	Rev 10, BP Final Handover		4/27/07			NO					Helideck	NO		DSME	These drawing exist, but there was no additional data.
1440-50-MO-DG-119-0001	Helideck Arrangement Obstruction Free Zone	Rev 11, Revised after Final Handover		10/31/07			NO					Helideck	NO		DSME	These drawing exist, but there was no additional data.
1440-50-MO-DG-119-0001	Helideck Arrangement Tie Down Point	Rev 10, BP Final Handover		4/27/07			NO					Helideck	NO		DSME	These drawing exist, but there was no additional data.
1440-50-MO-DG-119-0006	Helidecking Markings	Rev 10, BP Final Handover		4/27/07			NO		Rev 10			Helideck	NO		DSME	
1440-50-MO-DG-119-1110	Helideck - Safety Nets Plan, Details and Sections	Rev 10, BP Final Handover		4/27/07			NO		Rev 10			Helideck	NO		DSME	
1440-50-MO-DG-119-1110	Helideck - Safety Nets Plan, Details and Sections	Rev 10, BP Final Handover		4/27/07			NO		Rev 10			Helideck	NO		DSME	
1440-50-MO-DG-119-1110	Helideck - Safety Nets Plan, Details and Sections	Rev 10, BP Final Handover		4/27/07			NO		Rev 10			Helideck	NO		DSME	
	Grating Hatch Cover						NO					Helideck	NO		DSME	
1440-50-MO-DG-119-1200/1201	Drawing for Equipment Foundation - Upper Hull	Rev 60	11/25/03	3/28/05			NO		Rev 60			Helideck	NO		DSME	There is no notation that the drawing is for IFC.
1440-50-MO-DG-119-1200/1201	Helideck and Support Structure	Rev 60; As-Built	11/25/03	3/28/05			NO		Rev 60			Helideck	NO		DSME	There is no notation that the drawing is for IFC.
1440-50-MO-DG-119-1202	Helideck and Support Structure	Rev 60	11/25/03	3/28/05			NO		Rev 60			Helideck	NO		DSME	There is no notation that the drawing is for IFC.

MS8-5: Todd Production Inventory (Book 04)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engr Contractor											
1440-50-MO-DG-119-1203	Helideck and Support Structure	Rev 60; As-Built	11/25/03	3/28/05			NO		Rev 60			Helideck	NO		DSME	There is no notation that the drawing is for IFC.										
1440-50-MO-DG-119-1204	Helideck and Support Structure	Rev 60	11/25/03	3/28/05			NO		Rev 60			Helideck	NO		DSME	There is no notation that the drawing is for IFC.										
1440-50-MO-DG-119-1205	Helideck and Support Structure	Rev 60	11/25/03	3/28/05			NO		Rev 60			Helideck	NO		DSME											
1440-50-MO-DG-119-	Helideck and Support Structure	Rev 60	11/25/03	3/28/05			NO		Rev 60			Helideck	NO		DSME											
1440-50-MO-DG-234-0020,0021	Fendering Frame Arrangement	Rev 60, IFC	9/30/03	3/31/05			NO		Rev 60			Fendering Frame	NO		DSME											
1440-50-MO-DG-234-0020,0021	Fendering Frame Arrangement	Rev 60, IFC	9/30/03	3/31/05			NO		Rev 60			Fendering Frame	NO		DSME											
1440-50-MO-DG-234-0020,0021	Fendering Frame Arrangement	Rev 60, IFC	9/30/03	3/31/05			NO		Rev 60			Fendering Frame	NO		DSME											
1440-50-MO-DG-234-0020,0021	Fendering Frame Arrangement	Rev 60, IFC	9/30/03	3/31/05			NO		Rev 60			Fendering Frame	NO		DSME											
1440-50-MO-DG-234-0020,0021	Fendering Frame Arrangement	Rev 60, IFC	9/30/03	3/31/05			NO		Rev 60			Fendering Frame	NO		DSME											
1440-50-MO-DG-234-0020,0021	Fendering Frame Arrangement	Rev 60, IFC	9/30/03	3/31/05			NO		Rev 60			Fendering Frame	NO		DSME											
1440-50-MO-DG-234-0020,0021	Fendering Frame Arrangement	Rev 60, IFC	9/30/03	3/31/05			NO		Rev 60			Fendering Frame	NO		DSME											
1440-50-MO-DG-234-0020,0021	Fendering Frame Arrangement	Rev 60, IFC	9/30/03	3/31/05			NO		Rev 60			Fendering Frame	NO		DSME											
1440-50-MO-DG-234-0020,0021	Fendering Frame Arrangement	Rev 60, IFC	9/30/03	3/31/05			NO		Rev 60			Fendering Frame	NO		DSME											
1440-50-MO-DG-234-0020,0021	Fendering Frame Arrangement	Rev 60, IFC	9/30/03	3/31/05			NO		Rev 60			Fendering Frame	NO		DSME											
1440-50-MO-DG-234-0020,0021	Fendering Frame Arrangement	Rev 60, IFC	9/30/03	3/31/05			NO		Rev 60			Fendering Frame	NO		DSME											
1440-50-MO-DG-234-0020,0021	Fendering Frame Arrangement	Rev 60, IFC	9/30/03	3/31/05			NO		Rev 60			Fendering Frame	NO		DSME											

MS8-6: Todd Production Inventory (Book 05)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engr Contractor
1440-50-MO-DG-450-0001	Draught Marks Arr't	Rev 60; Final AFC		4/10/05	GHKIM				Rev 60; Final AFC	GHKIM		Draught Marks	NO		DSME
1440-50-MO-DG-450-0002	Draught Marks Arr't	Rev 60; Final AFC		4/10/05	GHKIM				Rev 60; Final AFC	GHKIM		Draught Marks	NO		DSME
1440-50-MO-DG-450-0003	Draught Marks Arr't	Rev 60; Final AFC		4/10/05	GHKIM				Rev 60; Final AFC	GHKIM		Draught Marks	NO		DSME
	Draught Marks Arr't	Rev 60; Final AFC		4/10/05	GHKIM				Rev 60; Final AFC	GHKIM		Draught Marks	NO		DSME
1440-50-MO-DG-450-0004	Draught Marks Arr't	Rev 60; Final AFC		4/10/05	GHKIM				Rev 60; Final AFC	GHKIM		Draught Marks	NO		DSME
1440-50-MO-DG-260-0001	Lifesaving Equip	Rev 10; Final Handover		4/5/07	SRS							Lifesaving Equip	NO		DSME
1440-50-MO-DG-260-0001	Lifesaving Equip	Rev 10; Final Handover		4/5/07	SRS							Lifesaving Equip	NO		DSME
1440-50-MO-DG-260-0001	Lifesaving Equip	Rev 10; Final Handover		4/5/07	SRS							Lifesaving Equip	NO		DSME
1440-50-DG-136-001	Arr't of Personnel Elevator (SE Column)	Rev 60, IFC	12/12/03	3/31/05			NO		Rev 60			Lifts

MS8-6: Todd Production Inventory (Book 05)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engr Contractor
1440-50-MO-DG-134-0001,2,4	Internal Ladder, Stair, & Platform - Deck Box / NW	Rev 60, IFC	9/23/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0001,2,4	Internal Ladder, Stair, & Platform - Deck Box / NE	Rev 60, IFC	9/23/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0001,2,4	Internal Ladder, Stair, & Platform - Deck Box / NE	Rev 60, IFC	9/23/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0001,2,4	Internal Ladder, Stair, & Platform - Deck Box / NE	Rev 60, IFC	9/23/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0001,2,4	Internal Ladder, Stair, & Platform - Deck Box / NE	Rev 60, IFC	9/23/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0001,2,4	Internal Ladder, Stair, & Platform - Deck Box / NE	Rev 60, IFC	9/23/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0001,2,4	Internal Ladder, Stair, & Platform - Deck Box / NE	Rev 60, IFC	9/23/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0001,2,4	Internal Ladder, Stair, & Platform - Deck Box / SE	Rev 60, IFC	9/23/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0001,2,4	Internal Ladder, Stair, & Platform - Deck Box / SE	Rev 60, IFC	9/23/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0001,2,4	Internal Ladder, Stair, & Platform - Deck Box / SE	Rev 60, IFC	9/23/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0001,2,4	Internal Ladder, Stair, & Platform - Deck Box / SE	Rev 60, IFC	9/23/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0001,2,4	Internal Ladder, Stair, & Platform - Deck Box / SE	Rev 60, IFC	9/23/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0001,2,4	Internal Ladder, Stair, & Platform - Deck Box / SE	Rev 60, IFC	9/23/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0001,2,4	Internal Ladder, Stair, & Platform - Deck Box / SW	Rev 60, IFC	9/23/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0001,2,4	Internal Ladder, Stair, & Platform - Deck Box / SW	Rev 60, IFC	9/23/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0001,2,4	Internal Ladder, Stair, & Platform - Deck Box / SW	Rev 60, IFC	9/23/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0001,2,4	Internal Ladder, Stair, & Platform - Deck Box / SW	Rev 60, IFC	9/23/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0001,2,4	Internal Ladder, Stair, & Platform - Deck Box / SW	Rev 60, IFC	9/23/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0020	Spiral Stairway Pontoon & Columns / NW	Rev 60, IFC	9/4/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0020	Spiral Stairway Pontoon & Columns / NW	Rev 60, IFC	9/4/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0020	Spiral Stairway Pontoon & Columns / NW	Rev 60, IFC	9/4/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0020	Spiral Stairway Pontoon & Columns / NW	Rev 60, IFC	9/4/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME

MS8-6: Todd Production Inventory (Book 05)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engr Contractor
1440-50-MO-DG-134-0020	Spiral Stairway Pontoon & Columns / NW	Rev 60, IFC	9/4/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0020	Spiral Stairway Pontoon & Columns / NW	Rev 60, IFC	9/4/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0020	Spiral Stairway Pontoon & Columns / NE	Rev 60, IFC	7/4/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0020	Spiral Stairway Pontoon & Columns / NE	Rev 60, IFC	7/4/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0020	Spiral Stairway Pontoon & Columns / NE	Rev 60, IFC	7/4/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0020	Spiral Stairway Pontoon & Columns / NE	Rev 60, IFC	7/4/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0020	Spiral Stairway Pontoon & Columns / NE	Rev 60, IFC	7/4/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0020	Spiral Stairway Pontoon & Columns / SE	Rev 60, IFC	7/4/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0020	Spiral Stairway Pontoon & Columns / SE	Rev 60, IFC	7/4/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0020	Spiral Stairway Pontoon & Columns / SE	Rev 60, IFC	7/4/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0020	Spiral Stairway Pontoon & Columns / SE	Rev 60, IFC	7/4/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0020	Spiral Stairway Pontoon & Columns / SW	Rev 60, IFC	7/4/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0020	Spiral Stairway Pontoon & Columns / SW	Rev 60, IFC	7/4/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0020	Spiral Stairway Pontoon & Columns / SW	Rev 60, IFC	7/4/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0020	Spiral Stairway Pontoon & Columns / SW	Rev 60, IFC	7/4/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0020	Grating Plan - Column Intermediate Deck / NW Column (Access Trunk)	Rev 60, IFC	7/25/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0020	Grating Plan - Column Intermediate Deck / NW Column (Access Trunk)	Rev 60, IFC	7/25/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0020	Grating Plan - Column Intermediate Deck / NW Column (Access Trunk)	Rev 60, IFC	7/25/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0020	Grating Plan - Column Intermediate Deck / NW Column (Access Trunk)	Rev 60, IFC	7/25/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0020	Grating Plan - Column Intermediate Deck / NW Column (Access Trunk)	Rev 60, IFC	7/25/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0020	Grating Plan - Column Intermediate Deck / NE Column (Access Trunk)	Rev 60, IFC	7/25/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0020	Grating Plan - Column Intermediate Deck / NE Column (Access Trunk)	Rev 60, IFC	7/25/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0020	Grating Plan - Column Intermediate Deck / NE Column (Access Trunk)	Rev 60, IFC	7/25/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME

MS8-6: Todd Production Inventory (Book 05)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engr Contractor
1440-50-MO-DG-134-0020	Grating Plan - Column Intermediate Deck / NE Column (Access Trunk)	Rev 60, IFC	7/25/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0020	Grating Plan - Column Intermediate Deck / NE Column (Access Trunk)	Rev 60, IFC	7/25/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0020	Grating Plan - Column Intermediate Deck / SE Column (Access Trunk)	Rev 60, IFC	8/29/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0020	Grating Plan - Column Intermediate Deck / SE Column (Access Trunk)	Rev 60, IFC	8/29/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0020	Grating Plan - Column Intermediate Deck / SE Column (Access Trunk)	Rev 60, IFC	8/29/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0020	Grating Plan - Column Intermediate Deck / SE Column (Access Trunk)	Rev 60, IFC	8/29/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0020	Grating Plan - Column Intermediate Deck / SE Column (Access Trunk)	Rev 60, IFC	8/29/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0020	Grating Plan - Column Intermediate Deck / SW Column (Access Trunk)	Rev 60, IFC	8/29/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0020	Grating Plan - Column Intermediate Deck / SW Column (Access Trunk)	Rev 60, IFC	8/29/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0020	Grating Plan - Column Intermediate Deck / SW Column (Access Trunk)	Rev 60, IFC	8/29/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0020	Grating Plan - Column Intermediate Deck / SW Column (Access Trunk)	Rev 60, IFC	8/29/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
	Maintenance Platform - Valve / Pipe Maint. / NW Column (Pipe Trunk)	Rev 60. IFC	7/25/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
	Maintenance Platform - Valve / Pipe Maint. / NW Column (Pipe Trunk)	Rev 60. IFC	7/25/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
	Maintenance Platform - Valve / Pipe Maint. / NW Column (Pipe Trunk)	Rev 60. IFC	7/25/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
	Maintenance Platform - Valve / Pipe Maint. / NE Column (Pipe Trunk)	Rev 60, IFC	7/25/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
	Maintenance Platform - Valve / Pipe Maint. / NE Column (Pipe Trunk)	Rev 60, IFC	7/25/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
	Maintenance Platform - Valve / Pipe Maint. / NE Column (Pipe Trunk)	Rev 60, IFC	7/25/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
	Maintenance Platform - Valve / Pipe Maint. / SE Column (Pipe Trunk)	Rev 60, IFC	9/9/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
	Maintenance Platform - Valve / Pipe Maint. / SE Column (Pipe Trunk)	Rev 60, IFC	9/9/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
	Maintenance Platform - Valve / Pipe Maint. / SE Column (Pipe Trunk)	Rev 60, IFC	9/9/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
	Maintenance Platform - Valve / Pipe Maint. / SE Column (Pipe Trunk)	Rev 60, IFC	9/9/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME

MS8-6: Todd Production Inventory (Book 05)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engr Contractor
	Maintenance Platform - Valve / Pipe Maint. / SW Column (Pipe Trunk)	Rev 60, IFC	9/9/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
	Maintenance Platform - Valve / Pipe Maint. / SW Column (Pipe Trunk)	Rev 60, IFC	9/9/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
	Maintenance Platform - Valve / Pipe Maint. / SW Column (Pipe Trunk)	Rev 60, IFC	9/9/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
	Maintenance Platform - Valve / Pipe Maint. / SW Column (Pipe Trunk)	Rev 60, IFC	9/9/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0003	Storm Rail Arrangement for Pontoon	Rev 60, IFC	7/25/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0003	Storm Rail Arrangement for Pontoon	Rev 60, IFC	7/25/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0003	Storm Rail Arrangement for Pontoon	Rev 60, IFC	7/25/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0003	Storm Rail Arrangement for Pontoon	Rev 60, IFC	7/25/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0003	Storm Rail Arrangement for Pontoon	Rev 60, IFC	7/25/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0001	Storm Rail Arrangement - Lower Deck	Rev 60, IFC	10/10/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0001	Storm Rail Arrangement - Lower Deck	Rev 60, IFC	10/10/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0001	Storm Rail Arrangement - Lower Deck	Rev 60, IFC	10/10/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0001	Storm Rail Arrangement - Lower Deck	Rev 60, IFC	10/10/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0001	Storm Rail Arrangement - Lower Deck	Rev 60, IFC	10/10/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0001	Storm Rail Arrangement - Tween Deck	Rev 60, IFC	10/10/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0001	Storm Rail Arrangement - Tween Deck	Rev 60, IFC	10/10/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0001	Storm Rail Arrangement - Tween Deck	Rev 60, IFC	10/10/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-134-0001	Storm Rail Arrangement - Tween Deck	Rev 60, IFC	10/10/03	3/31/05			NO		Rev 60			Internal Stairs and Ladders	NO		DSME
1440-50-MO-DG-133-0001-3	External Ladder, Stair & Platform - Deck House	Rev 60, IFC	10/24/03	3/31/05			NO		Rev 60			External Railings	NO		DSME
1440-50-MO-DG-133-0001-3	External Ladder, Stair & Platform - Deck House (Stair & Platform)	Rev 60, IFC	10/24/03	3/31/05			NO		Rev 60			External Railings	NO		DSME
1440-50-MO-DG-133-0001-3	External Ladder, Stair & Platform - Deck House (Vertical - Ladder & Platform)	Rev 60, IFC	10/24/03	3/31/05			NO		Rev 60			External Railings	NO		DSME
1440-50-MO-DG-133-0001-3	External Ladder, Stair & Platform - Deck House (Typical Detail)	Rev 60, IFC	10/24/03	3/31/05			NO		Rev 60			External Railings	NO		DSME
1440-50-MO-DG-133-0001-3	External Ladder, Stair & Platform - Deck House (Typical Detail)	Rev 60, IFC	10/24/03	3/31/05			NO		Rev 60			External Railings	NO		DSME
1440-50-MO-DG-133-0001-3	External Ladder, Stair & Platform - Deck House (Typical Detail)	Rev 60, IFC	10/24/03	3/31/05			NO		Rev 60			External Railings	NO		DSME

MS8-6: Todd Production Inventory (Book 05)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engr Contractor
1440-50-MO-DG-133-0001-3	External Ladder, Stair & Platform - Deck House (Typical Detail)	Rev 60, IFC	10/24/03	3/31/05			NO		Rev 60			External Railings	NO		DSME

MS8-6: Todd Production Inventory (Book 05)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engr Contractor
1440-50-MO-DG-133-0002	Handrail / Storm Rail Arrangement - - Deck House / 3rd Level	Rev 60, IFC	10/14/03	3/31/05			NO		Rev 60			External Railings	NO		DSME
1440-50-MO-DG-133-0002	Handrail / Storm Rail Arrangement - - Deck House / 3rd Level	Rev 60, IFC	10/14/03	3/31/05			NO		Rev 60			External Railings	NO		DSME
1440-50-MO-DG-133-0002	Handrail / Storm Rail Arrangement - - Deck House / Roof	Rev 60, IFC	10/14/03	3/31/05			NO		Rev 60			External Railings	NO		DSME
1440-50-MO-DG-133-0002	Handrail / Storm Rail Arrangement - - Deck House / Roof	Rev 60, IFC	10/14/03	3/31/05			NO		Rev 60			External Railings	NO		DSME
1440-50-MO-DG-133-0002	Handrail / Storm Rail Arrangement - - Deck House / Roof	Rev 60, IFC	10/14/03	3/31/05			NO		Rev 60			External Railings	NO		DSME
	Arrangement of Deck Coaming	Rev 60, IFC	4/14/03	3/31/05			NO		Rev 60			External Railings	NO		DSME
	Arrangement of Deck Coaming	Rev 60, IFC	4/14/03	3/31/05			NO		Rev 60			External Railings	NO		DSME
	Arrangement of Deck Coaming	Rev 60, IFC	4/14/03	3/31/05			NO		Rev 60			External Railings	NO		DSME
	Arrangement of Deck Coaming	Rev 60, IFC	4/14/03	3/31/05			NO		Rev 60			External Railings	NO		DSME
	Arrangement of Deck Coaming	Rev 60, IFC	4/14/03	3/31/05			NO		Rev 60			External Railings	NO		DSME
	Arrangement of Deck Coaming	Rev 60, IFC	4/14/03	3/31/05			NO		Rev 60			External Railings	NO		DSME
	Arrangement of Deck Coaming	Rev 60, IFC	4/14/03	3/31/05			NO		Rev 60			External Railings	NO		DSME
	Arrangement of Deck Coaming	Rev 60, IFC	4/14/03	3/31/05			NO		Rev 60			External Railings	NO		DSME
1440-50-MO-DG-133-0003,4,6	External Ladder Stair Arrangement for Deck Box (NW)	Rev 60, IFC	9/9/03	3/31/05			NO		Rev 60			External Railings	NO		DSME
1440-50-MO-DG-133-0004	External Ladder Stair Arrangement for Deck Box (NW)	Rev 60, IFC										External Railings	NO		DSME
1440-50-MO-DG-133-0004	External Ladder Stair Arrangement for Deck Box (NW)	Rev 60, IFC										External Railings	NO		DSME
1440-50-MO-DG-133-0004,6	External Ladder Stair Arrangement for Deck Box (NW)	Rev 60, IFC										External Railings	NO		DSME
1440-50-MO-DG-133-0003,4,6	External Ladder Stair Arrangement for Deck Box (NE)	Rev 60, IFC	9/9/03	3/31/05			NO		Rev 60			External Railings	NO		DSME
1440-50-MO-DG-133-0004	External Ladder Stair Arrangement for Deck Box (NE)	Rev 60, IFC										External Railings	NO		DSME
1440-50-MO-DG-133-0004,6	External Ladder Stair Arrangement for Deck Box (NE)	Rev 60, IFC										External Railings	NO		DSME
1440-50-MO-DG-133-0004,6	External Ladder Stair Arrangement for Deck Box (NE)	Rev 60, IFC										External Railings	NO		DSME
1440-50-MO-DG-133-0003,4,6	External Ladder Stair Arrangement for Deck Box (SE)	Rev 60, IFC	9/9/03	3/31/05			NO		Rev 60			External Railings	NO		DSME
1440-50-MO-DG-133-0004	External Ladder Stair Arrangement for Deck Box (SE)	Rev 60, IFC										External Railings	NO		DSME
1440-50-MO-DG-133-0004,6	External Ladder Stair Arrangement for Deck Box (SE)	Rev 60, IFC										External Railings	NO		DSME
1440-50-MO-DG-133-0003,4,6	External Ladder Stair Arrangement for Deck Box (SW)	Rev 60, IFC	9/9/03	3/31/05			NO		Rev 60			External Railings	NO		DSME
1440-50-MO-DG-133-0004	External Ladder Stair Arrangement for Deck Box (SW)	Rev 60, IFC										External Railings	NO		DSME
1440-50-MO-DG-133-0004,6	External Ladder Stair Arrangement for Deck Box (SE)	Rev 60, IFC										External Railings	NO		DSME
1440-50-MO-DG-133-0004,6	External Ladder Stair Arrangement for Deck Box (SE)	Rev 60, IFC										External Railings	NO		DSME

MS8-6: Todd Production Inventory (Book 05)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engr Contractor
1440-50-MO-DG-133-0005	External Ladder Stair & Platform - Column	Rev 60, IFC	8/7/03	3/31/05			NO		Rev 60			External Railings	NO		DSME
1440-50-MO-DG-133-0005	External Ladder Stair & Platform - Column	Rev 60, IFC										External Railings	NO		DSME
1440-50-MO-DG-133-0005	External Ladder Stair & Platform - Column	Rev 60, IFC										External Railings	NO		DSME
1440-50-MO-DG-133-0005	External Ladder Stair & Platform - Column	Rev 60, IFC										External Railings	NO		DSME
1440-50-MO-DG-133-0005	External Ladder Stair & Platform - Column	Rev 60, IFC										External Railings	NO		DSME
1440-50-MO-DG-133-0005	External Ladder Stair & Platform - Column	Rev 60, IFC										External Railings	NO		DSME
1440-50-MO-DG-133-5003-001	Riser Gas Barrier No. 5 - Details	Rev 0, IFC	8/25/09	8/25/09			NO					External Railings	NO		DSME
1440-50-MO-DG-133-5003-002	Riser Gas Barrier No. 5 - Details	Rev 0, IFC	8/25/09	8/25/09			NO					External Railings	NO		DSME
1440-50-MO-DG-133-5003-001	External Ladders, Stair & Platform - Mast.	Rev 60, IFC	1/15/04	3/31/05			NO		Rev 60			External Railings	NO		DSME
1440-50-MO-DG-231-0001	External Ladders, Stair & Platform - Mast.	Rev 60, IFC										External Railings	NO		DSME
1440-50-MO-DG-231-0001	External Ladders, Stair & Platform - Mast.	Rev 60, IFC										External Railings	NO		DSME
1440-50-MO-DG-231-0001	External Ladders, Stair & Platform - Mast.	Rev 60, IFC										External Railings	NO		DSME
1440-50-MO-DG-231-0001	External Ladders, Stair & Platform - Mast.	Rev 60, IFC										External Railings	NO		DSME
1440-50-MO-DG-231-0001	External Ladders, Stair & Platform - Mast.	Rev 60, IFC										External Railings	NO		DSME
1440-50-MO-DG-231-0002	Lower Deck Platform / Handrail Arrangement for NW Corner	Rev 60, IFC	8/26/03	3/31/05			NO		Rev 60			External Railings	NO		DSME
1440-50-MO-DG-231-0002	Lower Deck Platform / Handrail Arrangement for NW Corner	Rev 60, IFC										External Railings	NO		DSME
1440-50-MO-DG-231-0002	Lower Deck Platform / Handrail Arrangement for NW Corner	Rev 60, IFC										External Railings	NO		DSME
1440-50-MO-DG-231-0002	Lower Deck Platform / Handrail Arrangement for NW Corner	Rev 60, IFC										External Railings	NO		DSME
1440-50-MO-DG-231-0002	Lower Deck Platform / Handrail Arrangement for NE Corner	Rev 60, IFC	8/26/03	3/31/05			NO		Rev 60			External Railings	NO		DSME
1440-50-MO-DG-231-0002	Lower Deck Platform / Handrail Arrangement for NE Corner	Rev 60, IFC										External Railings	NO		DSME
1440-50-MO-DG-231-0002	Lower Deck Platform / Handrail Arrangement for NE Corner	Rev 60, IFC										External Railings	NO		DSME
1440-50-MO-DG-231-0002	Lower Deck Platform / Handrail Arrangement for SE Corner	Rev 60, IFC	8/26/03	3/31/05			NO		Rev 60			External Railings	NO		DSME
1440-50-MO-DG-231-0002	Lower Deck Platform / Handrail Arrangement for SE Corner	Rev 60, IFC										External Railings	NO		DSME
1440-50-MO-DG-231-0002	Lower Deck Platform / Handrail Arrangement for SE Corner	Rev 60, IFC										External Railings	NO		DSME
1440-50-MO-DG-231-0002	Lower Deck Platform / Handrail Arrangement for SW Corner	Rev 60, IFC	8/26/03	3/31/05			NO		Rev 60			External Railings	NO		DSME
1440-50-MO-DG-231-0002	Lower Deck Platform / Handrail Arrangement for SW Corner	Rev 60, IFC										External Railings	NO		DSME
1440-50-MO-DG-231-0002	Lower Deck Platform / Handrail Arrangement for SW Corner	Rev 60, IFC										External Railings	NO		DSME
1440-50-MO-DG-231-0001	Tween Deck Platform / Handrail Arrangement / NW Corner	Rev 60. IFC	9/22/03	3/31/05			NO		Rev 60			External Railings	NO		DSME
1440-50-MO-DG-231-0001	Tween Deck Platform / Handrail Arrangement / NW Corner	Rev 60. IFC										External Railings	NO		DSME
1440-50-MO-DG-231-0001	Tween Deck Platform / Handrail Arrangement / NW Corner	Rev 60. IFC										External Railings	NO		DSME
1440-50-MO-DG-231-0001	Tween Deck Platform / Handrail Arrangement / NW Corner	Rev 60. IFC										External Railings	NO		DSME

MS8-6: Todd Production Inventory (Book 05)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engr Contractor
1440-50-MO-DG-231-0002	Tween Deck Platform / Handrail Arrangement / NE Corner	Rev 60. IFC	9/8/03	3/31/05			NO		Rev 60			External Railings	NO		DSME
1440-50-MO-DG-231-0002	Tween Deck Platform / Handrail Arrangement / NE Corner	Rev 60. IFC										External Railings	NO		DSME
1440-50-MO-DG-231-0002	Tween Deck Platform / Handrail Arrangement / SE Corner	Rev 60. IFC	9/8/03	3/31/05			NO		Rev 60			External Railings	NO		DSME
1440-50-MO-DG-231-0002	Tween Deck Platform / Handrail Arrangement / SW Corner	Rev 60. IFC	9/8/03	3/31/05			NO		Rev 60			External Railings	NO		DSME
1440-50-MO-DG-231-0002	Tween Deck Platform / Handrail Arrangement / SW Corner	Rev 60. IFC										External Railings	NO		DSME
	Arr't of Tank Marking (Pontoon Top Deck)	As-Built	10/15/03	3/28/05			NO		Rev 60			Miscellaneous	NO		DSME
	Pontoon Bottom Shell	As-Built	10/15/03	3/28/05			NO		Rev 60			Miscellaneous	NO		DSME
	Pontoon Shell Expand-NW Area	Rev 60, IFC	10/15/03	3/28/05			NO		Rev 60			Miscellaneous	NO		DSME
	Pontoon Shell Expand-SW Area	Rev 60, IFC	10/15/03	3/28/05			NO		Rev 60			Miscellaneous	NO		DSME
	Column Shell Expand- AFT	Rev 60, IFC	10/15/03	3/28/05			NO		Rev 60			Miscellaneous	NO		DSME
	Column Shell Expand- FWD	Rev 60, IFC	10/15/03	3/28/05			NO		Rev 60			Miscellaneous	NO		DSME
	Mooring System Chain Pipe Cover Detail	Rev 60, IFC	4/1/04	3/31/05			NO		Rev 60			Miscellaneous	NO		DSME
	Mooring System Chain Pipe Cover Detail	Rev 60, IFC	4/1/04	3/31/05			NO		Rev 60			Miscellaneous	NO		DSME
	Mooring System Chain Pipe Cover Detail	Rev 60, IFC	4/1/04	3/31/05			NO		Rev 60			Miscellaneous	NO		DSME
	Mooring System Chain Pipe Cover Detail	Rev 60, IFC	4/1/04	3/31/05			NO		Rev 60			Miscellaneous	NO		DSME
	Mooring System Chain Pipe Cover Detail	Rev 60, IFC	4/1/04	3/31/05			NO		Rev 60			Miscellaneous	NO		DSME
	Mooring System Chain Pipe Cover Detail	Rev 60, IFC	4/1/04	3/31/05			NO		Rev 60			Miscellaneous	NO		DSME
	Mast Structure (SE Main Antenna Tower)	Rev 60, IFC	12/22/03	3/28/05			NO		Rev 60			Miscellaneous	NO		DSME
	Mast Structure (NW Antenna Tower)	Rev 60, IFC	12/22/03	3/28/05			NO		Rev 60			Miscellaneous	NO		DSME
	Mast Structure (SE Main Antenna Tower)	Rev 60, IFC	12/22/03	3/28/05			NO		Rev 60			Miscellaneous	NO		DSME
	Mast Structure (NW Antenna Tower)	Rev 60, IFC	12/22/03	3/28/05			NO		Rev 60			Miscellaneous	NO		DSME
	Mast Structure (SE Main Antenna Tower)	Rev 60, IFC	12/22/03	3/28/05			NO		Rev 60			Miscellaneous	NO		DSME
	Mast Structure (NW Antenna Tower)	Rev 60, IFC	12/22/03	3/28/05			NO		Rev 60			Miscellaneous	NO		DSME
	Sea Fastening and Catcher	Rev 60, IFC	10/21/03	3/28/05			NO		Rev 60			Miscellaneous	NO		DSME
	Sea Fastening and Catcher	Rev 60, IFC	10/21/03	3/28/05			NO		Rev 60			Miscellaneous	NO		DSME
	Sea Fastening and Catcher	Rev 60, IFC	10/21/03	3/28/05			NO		Rev 60			Miscellaneous	NO		DSME
	Sea Fastening and Catcher	Rev 60, IFC	10/21/03	3/28/05			NO		Rev 60			Miscellaneous	NO		DSME
	Sea Fastening and Catcher	Rev 60, IFC	10/21/03	3/28/05			NO		Rev 60			Miscellaneous	NO		DSME
	Sea Fastening and Catcher	Rev 60, IFC	10/21/03	3/28/05			NO		Rev 60			Miscellaneous	NO		DSME
	Plan of Stringers - Column STR. 1 & 2 (FWD-STB Column)	Rev 60, IFC	10/1/03	3/28/05			NO		Rev 60			Miscellaneous	NO		DSME
	Plan of Stringers - Column STR. 3 (FWD-STB Column)	Rev 60, IFC	10/1/03	3/28/05			NO		Rev 60			Miscellaneous	NO		DSME
	WT Stringer - Column STR. 4 (FWD - STBA Column)	Rev 60, IFC	10/1/03	3/28/05			NO		Rev 60			Miscellaneous	NO		DSME
	Details Around cast Integrals	Rev 60, IFC	1/13/04	3/28/05			NO		Rev 60			Miscellaneous	NO		DSME
	Transverse Sections (4) Upper Hull (FWD SB Quardrant)	Rev 60, IFC	9/19/03	3/28/05			NO		Rev 60			Miscellaneous	NO		DSME
	Structural Details (Scallops for Block Butt)	Rev 60, IFC	6/13/03	3/28/05			NO		Rev 60			Miscellaneous	NO		DSME
	Structural Details	Rev 60, IFC	6/13/03	3/28/05			NO		Rev 60			Miscellaneous	NO		DSME
1440-50-MO-DG-135-0004	Ladder & Platform Column NW	Rev 60, IFC	7/14/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0004	Ladder & Platform Column NW	Rev 60, IFC	7/14/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0004	Ladder & Platform Column NW	Rev 60, IFC	7/14/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0005	Ladder & Platform Column NW	Rev 60, IFC	7/14/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0005	Ladder & Platform Column NW	Rev 60, IFC	7/14/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0006	Ladder & Platform Column NW	Rev 60, IFC	7/14/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME

MS8-6: Todd Production Inventory (Book 05)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engr Contractor
1440-50-MO-DG-135-0006	Ladder & Platform Column NW	Rev 60, IFC	7/14/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0006	Ladder & Platform Column NW	Rev 60, IFC	7/14/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0004	Ladder & Platform Column NE	Rev 60, IFC	7/14/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0004	Ladder & Platform Column NE	Rev 60, IFC	7/14/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0004	Ladder & Platform Column NE	Rev 60, IFC	7/14/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0005	Ladder & Platform Column NE	Rev 60, IFC	7/14/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0005	Ladder & Platform Column NE	Rev 60, IFC	7/14/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0006	Ladder & Platform Column NE	Rev 60, IFC	7/14/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0006	Ladder & Platform Column NE	Rev 60, IFC	7/14/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0006	Ladder & Platform Column NE	Rev 60, IFC	7/14/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0004	Ladder & Platform Column SE	Rev 60, IFC	7/14/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0004	Ladder & Platform Column SE	Rev 60, IFC	7/14/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0004	Ladder & Platform Column SE	Rev 60, IFC	7/14/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0004	Ladder & Platform Column SE	Rev 60, IFC	7/14/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0004	Ladder & Platform Column SE	Rev 60, IFC	7/14/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0004	Ladder & Platform Column SE	Rev 60, IFC	7/14/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0004	Ladder & Platform Column SE	Rev 60, IFC	7/14/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0004	Ladder & Platform Column SE	Rev 60, IFC	7/14/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0004	Ladder & Platform Column SW	Rev 60, IFC	6/20/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0004	Ladder & Platform Column SW	Rev 60, IFC	6/20/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0004	Ladder & Platform Column SW	Rev 60, IFC	6/20/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0004	Ladder & Platform Column SW	Rev 60, IFC	6/20/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0004	Ladder & Platform Column SW	Rev 60, IFC	6/20/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0004	Ladder & Platform Column SW	Rev 60, IFC	6/20/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0004	Ladder & Platform Column SW	Rev 60, IFC	6/20/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0004	Ladder & Platform Column SW	Rev 60, IFC	6/20/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0003	Ladder & Platform Deck Box NW	Rev 60, IFC	8/1/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0003	Ladder & Platform Deck Box	Rev 60, IFC	8/1/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
	Ladder & Platform Deck Box	Rev 60, IFC	8/1/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0003	Ladder & Platform Deck Box	Rev 60, IFC	8/1/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0003	Ladder & Platform Deck Box	Rev 60, IFC	8/1/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0003	Ladder & Platform Deck Box	Rev 60, IFC	8/1/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0003	Ladder & Platform Deck Box NE	Rev 60, IFC	8/18/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0003	Ladder & Platform Deck Box SE	Rev 60, IFC	8/18/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0003	Ladder & Platform Deck Box SW	Rev 60, IFC	8/18/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0007	Ladder & Platform Pontoon NW	Rev 60, IFC	6/30/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0007	Ladder & Platform Pontoon NW	Rev 60, IFC	6/30/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0007	Ladder & Platform Pontoon NW	Rev 60, IFC	6/30/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0007	Ladder & Platform Pontoon NW	Rev 60, IFC	6/30/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0007	Ladder & Platform Pontoon NE	Rev 60, IFC	7/15/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0007	Ladder & Platform Pontoon NE	Rev 60, IFC	7/15/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0007	Ladder & Platform Pontoon NE	Rev 60, IFC	7/15/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0007	Ladder & Platform Pontoon SE	Rev 60, IFC	7/15/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0007	Ladder & Platform Pontoon SE	Rev 60, IFC	7/15/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0007	Ladder & Platform Pontoon SE	Rev 60, IFC	7/15/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0007	Ladder & Platform Pontoon SW	Rev 60, IFC	7/15/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0007	Ladder & Platform Pontoon SW	Rev 60, IFC	7/15/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME
1440-50-MO-DG-135-0007	Ladder & Platform Pontoon SW	Rev 60, IFC	7/15/03	3/31/05			NO		Rev 60			Ladders in Cargo	NO		DSME

MS8-6: Todd Production Inventory (Book 05)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engr Contractor
	Typical Detail	Rev 60, IFC					NO					Ladders in Cargo	NO		DSME
	Typical Detail	Rev 60, IFC					NO					Ladders in Cargo	NO		DSME
	Typical Detail	Rev 60, IFC					NO					Ladders in Cargo	NO		DSME
	Typical Detail	Rev 60, IFC					NO					Ladders in Cargo	NO		DSME
	Typical Detail	Rev 60, IFC					NO					Ladders in Cargo	NO		DSME
	Typical Detail	Rev 60, IFC					NO					Ladders in Cargo	NO		DSME
	Typical Detail	Rev 60, IFC					NO					Ladders in Cargo	NO		DSME
	Typical Detail	Rev 60, IFC					NO					Ladders in Cargo	NO		DSME
	Typical Detail	Rev 60, IFC					NO					Ladders in Cargo	NO		DSME
	Typical Detail	Rev 60, IFC					NO					Ladders in Cargo	NO		DSME
	Typical Detail	Rev 60, IFC					NO					Ladders in Cargo	NO		DSME
	Typical Detail	Rev 60, IFC					NO					Ladders in Cargo	NO		DSME
	Typical Detail	Rev 60, IFC					NO					Ladders in Cargo	NO		DSME
	Typical Detail	Rev 60, IFC					NO					Ladders in Cargo	NO		DSME
	Typical Detail	Rev 60, IFC					NO					Ladders in Cargo	NO		DSME
	Typical Detail	Rev 60, IFC					NO					Ladders in Cargo	NO		DSME
	Typical Detail	Rev 60, IFC					NO					Ladders in Cargo	NO		DSME
	Typical Detail	Rev 60, IFC					NO					Ladders in Cargo	NO		DSME
	Typical Detail	Rev 60, IFC					NO					Ladders in Cargo	NO		DSME
	Typical Detail	Rev 60, IFC					NO					Ladders in Cargo	NO		DSME
	Typical Detail	Rev 60, IFC					NO					Ladders in Cargo	NO		DSME
	Typical Detail	Rev 60, IFC					NO					Ladders in Cargo	NO		DSME
	Typical Detail	Rev 60, IFC					NO					Ladders in Cargo	NO		DSME
	Typical Detail	Rev 60, IFC					NO					Ladders in Cargo	NO		DSME

MS8-7 (Amended) Todd Production Inventory (Book 06)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engr Contractor	
1440-50-MR-DG-230-5001	PQ Steel Mooring Line Config	Rev 3; IDE		9/19/03	DM/RSK		NO		Rev 3; IDE	DM/RSK		Mooring Lines	NO		Halliburton KBR	
	Spiral Strand Cross Sectionq	Rev 1; As-Built		6/23/03	TD		NO		Rev 1; As-Built			Mooring Lines	NO		ScanRope	
	Open Socket	Rev 3; As-Built					NO					Mooring Lines	NO		ScanRope	
	Socket Pin	Rev 2; As-Built		4/21/04	TD		NO		Rev 2; As-Built	TD		Mooring Lines	NO		ScanRope	
	Socket Pin Horse Shoe Clip	Rev 0; As-Built		6/20/03	TD		NO		Rev 0; As-Built	TD		Mooring Lines	NO		ScanRope	
	Horse Shoe Clip Locking Bar	Rev 0; As-Built		6/20/03	TD		NO		Rev 0; As-Built	TD		Mooring Lines	NO		ScanRope	
	Socket Back Plate	Rev 1; As-Built		10/10/03	TD		NO		Rev 1; As-Built	TD		Mooring Lines	NO		ScanRope	
	Open Socket Anode	Rev 0; As-Built		10/27/03	TD		NO		Rev 0; As-Built	TD		Mooring Lines	NO		ScanRope	
	Closed Socket	Rev 2					NO					Mooring Lines	NO		ScanRope	
	Closed Socket Anode	Rev 3; IFR		10/27/03	TD		NO		Rev 3; IFR	TD		Mooring Lines	NO		ScanRope	
	Connecting Plate	Rev 2					NO					Mooring Lines	NO		ScanRope	
	Connecting Plate Anode	Rev 0; IFR		1/23/04	TD		NO		Rev 0; IFR	TD		Mooring Lines	NO		ScanRope	
	Connecting Plate Socket Interface	Rev 0; As-Built		1/23/04	TD		NO		Rev 0; As-Built	TD		Mooring Lines	NO		ScanRope	
	Assembly Chains	Rev 2	10/14/03	1/26/04			NO		Rev 2			Mooring Lines	NO		Vicinay Cadenas SA	
	Studless Common Link		10/14/03				NO					Mooring Lines	NO		Vicinay Cadenas SA	
	Studless Common Link		10/14/03				NO					Mooring Lines	NO		Vicinay Cadenas SA	
	Joining Shackle Pile Type	Rev 2	10/14/03	12/19/03			NO		Rev 2			Mooring Lines	NO		Vicinay Cadenas SA	
	Special End Link		10/14/03				NO					Mooring Lines	NO		Vicinay Cadenas SA	
	Shackle D Type Socket	Rev 3	10/14/03	12/19/03			NO					Mooring Lines	NO		Vicinay Cadenas SA	
1440-50-MR-DG-230-5020	Grp 2 Mooring Suciton Anchor	Rev 3; Revised after IFC		10/15/04	CR		NO		Rev 3; Revised after IFC	CR		Suction Anchoring	NO		KBR	ABS Approved
1440-50-MR-DG-230-5021	Grp 2 Mooring Suciton Anchor	Rev 3; Revised after IFC		10/15/04	CR		NO		Rev 3; Revised after IFC	CR		Suction Anchoring	NO		KBR	ABS Approved
1440-50-MR-DG-230-5022	Grp 2 Mooring Suciton Anchor	Rev 4; Revised after IFC					NO					Suction Anchoring	NO		KBR	ABS Approved
1440-50-MR-DG-230-5023	Grp 2 Mooring Suciton Anchor	Rev 3; Revised after IFC		10/15/04			NO		Rev 3; Revised after IFC			Suction Anchoring	NO		KBR	ABS Approved
1440-50-MR-DG-230-5024	Grp 2 Mooring Suciton Anchor	Rev 3; Revised after IFC		10/15/04			NO		Rev 3; Revised after IFC			Suction Anchoring	NO		KBR	ABS Approved
1440-50-MR-DG-230-5025	Grp 2 Mooring Suciton Anchor	Rev 2; Revised after IFC		7/22/04	JS		NO		Rev 2; Revised after IFC	JS		Suction Anchoring	NO		KBR	ABS Approved
1440-50-MR-DG-230-5026	Grp 2 Mooring Suciton Anchor	Rev 3; Revised after IFC					NO		Rev 3; Revised after IFC			Suction Anchoring	NO		KBR	ABS Approved
	Cast Suction Anchor Padeye	Rev 0; As-Built	7/10/03	1/27/04								Suction Anchoring	NO		Sheffield Forgemasters	ABS Approved
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04									Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04									Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04									Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04									Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Pile #1	Final Survey	2/15/05									Sucction Anchoring	NO		Kiewit Offshore	
	Pile #1		2/17/05	3/23/05								Sucction Anchoring	NO		Kiewit Offshore	

MS8-7 (Amended) Todd Production Inventory (Book 06)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engr Contractor	
	Pile #1		2/17/05	3/23/05								Sucction Anchoring	NO		Kiewit Offshore	
	Pile #1		2/17/05	3/23/05								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Pile #2	Final Survey	2/15/05	3/23/05								Sucction Anchoring	NO		Kiewit Offshore	
	Pile #2		2/17/05	3/23/05								Sucction Anchoring	NO		Kiewit Offshore	
	Pile #2		2/17/05	3/23/05								Sucction Anchoring	NO		Kiewit Offshore	
	Pile #2		2/17/05	3/23/05								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Pile #3	Final Survey	2/15/05	3/23/05								Sucction Anchoring	NO		Kiewit Offshore	
	Pile #3		2/17/05	3/23/05								Sucction Anchoring	NO		Kiewit Offshore	
	Pile #3		2/17/05	3/23/05								Sucction Anchoring	NO		Kiewit Offshore	
	Pile #3		2/17/05	3/23/05								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Pile #4	Final Survey	2/15/05	3/7/05								Sucction Anchoring	NO		Kiewit Offshore	

MS8-7 (Amended) Todd Production Inventory (Book 06)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engr Contractor	
	Pile #4		2/11/05	3/23/05								Sucction Anchoring	NO		Kiewit Offshore	
	Pile #4		2/11/05	3/23/05								Sucction Anchoring	NO		Kiewit Offshore	
	Pile #4		2/11/05	3/23/05								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Pile #5	Final Survey	2/15/05	3/7/05								Sucction Anchoring	NO		Kiewit Offshore	
	Pile #5		2/11/05	3/23/05								Sucction Anchoring	NO		Kiewit Offshore	
	Pile #5		2/11/05	3/23/05								Sucction Anchoring	NO		Kiewit Offshore	
	Pile #5		2/11/05	3/23/05								Sucction Anchoring	NO		Kiewit Offshore	
	Pile #5		2/11/05	3/23/05								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Pile #6	Final Survey	3/17/05									Sucction Anchoring	NO		Kiewit Offshore	
	Pile #6		3/17/05	3/23/05								Sucction Anchoring	NO		Kiewit Offshore	
	Pile #6		3/17/05	3/23/05								Sucction Anchoring	NO		Kiewit Offshore	
	Pile #6		3/17/05	3/23/05								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	

MS8-7 (Amended) Todd Production Inventory (Book 06)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engr Contractor	
	Pile #7	Final Survey	2/15/05									Sucction Anchoring	NO		Kiewit Offshore	
	Pile #7		2/11/05	3/23/05								Sucction Anchoring	NO		Kiewit Offshore	
	Pile #7		2/11/05	3/23/05								Sucction Anchoring	NO		Kiewit Offshore	
	Pile #7		2/11/05	3/23/05								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Pile #8	Final Survey	3/3/05									Sucction Anchoring	NO		Kiewit Offshore	
	Pile #8		3/3/05	3/23/05								Sucction Anchoring	NO		Kiewit Offshore	
	Pile #8		3/3/05	3/23/05								Sucction Anchoring	NO		Kiewit Offshore	
	Pile #8		3/3/05	3/23/05								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Pile #9	Final Survey	3/1/05									Sucction Anchoring	NO		Kiewit Offshore	
	Pile #9		3/1/05	3/23/05								Sucction Anchoring	NO		Kiewit Offshore	
	Pile #9		3/1/05	3/23/05								Sucction Anchoring	NO		Kiewit Offshore	
	Pile #9		3/1/05	3/23/05								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	

MS8-7 (Amended) Todd Production Inventory (Book 06)

BP Document No.	Description	Current Revision Status	Date Prepared	Current Rev Date	Engrs Initials	Client Initials	In Barry Duff Closeout Rpt RevA(4)	Doc Rev in Barry Duff Closeout Rpt RevA(4)	Revision as of 8/1/05	Engrs Initials	Client Initials	File Location	PE Stamp	Name on PE Stamp	Engr Contractor	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Pile #10	Final Survey	3/3/05									Sucction Anchoring	NO		Kiewit Offshore	
	Pile #10		3/3/05	3/23/05								Sucction Anchoring	NO		Kiewit Offshore	
	Pile #10		3/3/05	3/23/05								Sucction Anchoring	NO		Kiewit Offshore	
	Pile #10		3/3/05	3/23/05								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Pile #11	Final Survey	3/8/05									Sucction Anchoring	NO		Kiewit Offshore	
	Pile #11		3/8/05	3/23/05								Sucction Anchoring	NO		Kiewit Offshore	
	Pile #11		3/8/05	3/23/05								Sucction Anchoring	NO		Kiewit Offshore	
	Pile #11		3/8/05	3/23/05								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Mooring Suction Anchor	Rev 1; Revised after IFC	8/16/04	11/1/04								Sucction Anchoring	NO		Kiewit Offshore	
	Pile #12	Final Survey	3/18/05									Sucction Anchoring	NO		Kiewit Offshore	
	Pile #12		3/18/05	3/23/05								Sucction Anchoring	NO		Kiewit Offshore	
	Pile #12		3/18/05	3/23/05								Sucction Anchoring	NO		Kiewit Offshore	
	Pile #12		3/18/05	3/23/05								Sucction Anchoring	NO		Kiewit Offshore	

Analysis of MS8 Books 1-6 Drawings

Todd Book No.	Total Drawings in Book	Dated Pre-5/1/05	No Date	Dated Post-5/1/05	Notes
1	430	381 (89%)	6 (1%)	**43* (10%)**	All by Mustang
2	520	366 (70%)	3 (1%)	**151* (29%)**	All by Mustang
3	441	387 (88%)	54 (12%)	**0**	437 by DSME; 6 by GVA
4	248	150 (60%)	85 (34%)	**13* (6%)**	All by DSME
5	330	267 (81%)	58 (18%)	**5* (1%)**	All by DSME
6	135	115 (85%)	20 (15%)	**0**	None by DSME
Total Drawings in Books 1-6 = 2,104					
Total Drawings in Books 1-6 Dated Pre-5/1/05 = 1,666 (79%)					
Total Drawings in Books 1-6 with No Date = 226 (11%)					
Total Drawings in Books 1-6 Dated Post-5/1/05 = 212 (10%)					

Analysis of MS8 Books 1-6 Drawings

*Analysis of 43 - BOOK 1 Drawings dated post-5/1/05:		
Date	**No. with that Date**	**Drawing Status**
5/2/06	1	IFC
8/25/06	3	1=IFC; 2=Revised after IFC
8/29/06	1	IFC
12/6/06	32	17=Revised after IFC; 15=IFC
1/4/07	1	Revised after IFC
6/30/07	4	Revised after IFC
5/7/08	1	Revised after IFC

Analysis of MS8 Books 1-6 Drawings

*Analysis of 151 - BOOK 2 Drawings dated post-5/1/05:		
Date	**No. with that Date**	**Drawing Status**
6/1/05	1	Revised after IFC
6/28/05	1	Revised after IFC
11/8/05	5	IFC
11/10/05	2	IFC
11/18/05	2	Revised after IFC
11/25/05	1	Revised after IFC
1/8/06	1	Revised after IFC
1/13/06	2	Revised after IFC
5/15/06	4	IFC
5/18/06	3	1=Revised after IFC; 2=IFC
6/7/06	2	Revised after IFC
8/18/06	3	2=Revised after IFC; 1=IFC
8/23/06	2	IFI
8/25/06	4	2=Revised after IFC; 2=IFC
8/31/06	2	IFC
9/6/06	1	Revised after IFC
9/8/06	3	Revised after IFC
11/3/06	1	Revised after IFC
12/6/06	47	1=IFC; 2-AF;3=Revised after IFC; 41=AF/AC
1/25/07	6	As-Built
6/21/08	3	1=Revised after IFC; 2-AF/AC
7/1/08	1	AF
8/19/08	3	IFC
9/9/08	1	IFC
9/29/08	5	1=Revised after IFC; 4=IFC
10/6/08	1	IFC
10/8/08	1	IFC
10/24/08	8	3=Revised after IFC; 5=IFC
10/26/08	1	Revised after IFC
11/18/08	2	1=Revised after IFC; 1=IFC
11/19/08	2	Revised after IFC
12/1/08	9	Revised after IFC
2/1/09	1	AF/AC
2/9/09	1	Revised after IFC
3/20/09	2	Revised after IFC
4/20/09	2	IFC
4/23/09	2	Revised after IFC
4/28/09	2	IFC
5/18/09	3	IFC
6/1/09	5	2=Revised after IFC; 3=IFC
6/3/09	1	Revised after IFC
6/11/09	1	Revised after IFC
7/16/09	1	IFC

Analysis of MS8 Books 1-6 Drawings

*Analysis of 13 - BOOK 4 Drawings dated post-5/1/05:		
Date	**No. with that Date**	**Drawing Status**
4/5/07	6	BP Final Handover
4/27/07	6	BP Final Handover
10/31/07	1	Revised after final Handover

Analysis of MS8 Books 1-6 Drawings

*Analysis of 5 - BOOK 5 Drawings dated post-5/1/05:		
Date	**No. with that Date**	**Drawing Status**
4/5/07	3	Final Handover
8/25/09	2	IFC

ATTACHMENT D

AFFIDAVIT OF GLEN STEVICK, Ph.D., P.E.

1. I, Glen Stevick, am more than 21 years of age, and I am competent to make this affidavit. The facts stated below are true and correct and are based on my personal knowledge, formal education, and professional experience.

Professional Background, Experience and Education

2. I am a registered Professional Engineer in the states of California, Nevada, and Utah, and a member of the American Society of Mechanical Engineers. I worked for Chevron from 1981 to 1989 as a project engineer and consultant on various aspects of design, construction, management of oil/water separation plants and gas recovery plants and provided technical consultation in the areas of failure analysis, design assessment, and redesign of drill strings, drill casings, drill bits, shear rams and packing devices. I also provided advice and guidance on avoiding structural vibrations, calculating crack growth rates and remaining life for offshore platforms in the Gulf of Mexico and the North Sea. Assessment of these devices and structures involved detailed stress analysis and fracture mechanics calculations.

3. Regarding drawings in particular, I have redlined drawings, inspected facilities and drawings as part of the as-built process, and have reviewed redlined drawings to access the acceptability of design and construction changes. In addition, I was part of a team that established the document storage, control, and retrieval system for my engineering group while employed at Chevron.

4. I have taught mechanical engineering at the University of California, Berkeley, serving as an instructor for the Mechanical Engineering Department's senior design course, "Mechanical Engineering Design," and have conducted various lectures on mechanical engineering topics. Currently, I serve as a mechanical engineering consultant at Berkeley Engineering And Research, Inc. (BEAR), specializing in Failure Analysis and Design of Dynamic Structures, Fluid Systems, Industrial Equipment and Consumer Products, including: mechanical and electrical systems; compressors, turbines and reciprocating engines; pressure vessels, heat exchangers, valves, piping and numerous piping devices including pigs, clamps, flanges, connectors, flame arrestors, etc.

5. I received a B.S. in Mechanical Engineering from Michigan Technological University in 1980, and a Masters degree and Ph.D. in Mechanical Engineering from the University of California, Berkeley in 1981 and 1993, respectively. My Ph.D. minor concentrations were in structural analysis and electronics and controls. I have taken several additional courses while at Chevron on process safety, operations (upstream and downstream) and risk management.

Basis of This Affidavit

6. This affidavit and the opinions contained herein are based upon my professional knowledge of the information and review and knowledge of the

documents referenced in this Affidavit, as well as my professional background and experience.

Testimony

7. Disciplined control of engineering design and construction documents is critical to the engineering of the complex components of a floating production system like the Atlantis Facility. To ensure safe and effective integration of the numerous systems that are proceeding through engineering design, construction, and implementation in parallel, the industry employs document control procedures under which engineering documents progress through several stages of development. Typically, an operator and its engineering contractors will meet early in the design phase of a project to establish various standards for the project, including document control. Such agreements are typically reduced to written procedures. Although some preliminary stages of engineering drawings may vary from procedure to procedure, all drawings relating to the engineering of a floating production system should culminate in a final document type:

> "As-Built": Upon completion of construction, the latest version of the drawing issued for fabrication or construction ("Issued for Construction") is revised to reflect any modifications made during construction, is rechecked by engineering personnel, and re-issued clearly marked "as-built."

8. Construction and installation of a floating production system invariably results in numerous changes to the system as compared to the design depicted in an Issued for Construction engineering drawing. An "as-built" drawing depicts the relevant component of the floating production system as it was actually built or constructed.

9. After construction, an operator or other responsible party will employ procedures to inspect the facility and to issue "as-built" drawings that reflect changes made to the facility during construction. "As-built" drawings are not merely redlines of previous versions of a drawing; "as-built" drawings have been re-checked by an engineer after redlining, have been re-issued with the changes, and have been marked "as-built."

10. One of the most important parts of construction is the due diligence required to confirm what is actually built either (1) conforms to the original design or (2) is documented, gone through an engineering re-evaluation, approved and the drawings updated and marked "as-built." As-built drawings are a critical part of risk management for any facility and/or operation. To properly assess risk, hazards, and equipment life, the as-built drawings must be accurate and up to date. Assessments involving stress analysis, fracture mechanics, creep, fatigue and corrosion require accurate dimensional and material information which are part of engineering drawings. Accuracy is also required for emergency situations where hot-tapping or bypassing of process systems must be implemented to restore safety. The "as-built"

process of checking components and their installation also provides a commissioning check that can eliminate mistakes in construction such as installing check valve in the wrong direction, mislabelling of valves, etc.

11. As-built drawing are typically kept during all phases of a construction project. A construction manager or coordinator makes sure all supervisors on the project maintain the as-built drawings. Any change or deviation from the original plans must be recorded. Each phase of a project must also be inspected to determine if any changes have occurred.

12. If no changes or markups have been made to a drawing, the engineer of record stamps the drawing with his or her seal and labels the drawing "as-built." If changes or markups were made, the engineer of record provides annotation indicating whether additional engineering evaluation was necessary and where it can be found. Once all changes have been reconciled, the engineer stamps the drawing and labels it "As-Built."

13. The "as-built" process does not end at mechanical completion. "All involved in the commissioning have a responsibility to identify any inconsistencies in the documentation and to ensure that they are rectified It is particularly important that modifications made during commissioning should be incorporated, and it is clearly necessary to have a procedure to ensure that this takes place."[1] It is actually an ongoing process. Changes will be made in the future and the "as-built" drawings must be continually updated.

14. The importance of marking an as-built document with a label that clearly and unambiguously states "as-built" is paramount. The operator of a floating production system relies on drawings that clearly and accurately depict the facility as it was actually built to develop operational procedures and safety procedures, among other things. If "as-built" drawings are not clearly and unambiguously marked "as-built," persons developing operational and safety procedures and operating the facility will rely on documents that may not reflect the as-built condition of the facility by incorrectly assuming that a drawing that has not been updated is in fact the as-built version.

15. The availability of "as-built" drawings that are clearly and unambiguously marked "as-built" are critical to the development of operating a safety procedures on a floating production system. API RP 14J, Recommended Practice for Design and Hazards Analysis for Offshore Production Facilities, directs that a pre-start up review prior to the initial startup of a new facility should confirm that:

> 2. Construction has been completed according to design specification . . . [and]
>
> 3. Piping is routed and valved according to the P&IDs.[2]

[1] Horsley, D., Process Plant Commissioning, 2nd Edition, Institute of Chemical Engineers, 1998.

[2] API RP 14J at 43-44.

Section 7 of API RP 14J also discusses the various types of Hazards Analysis and lists the hazards analysis activities associated with the phases in the life cycle of a facility. For pre-start up, the hazards analysis should, "[c]onfirm facility built as designed."[3]

16. All fifty states and the District of Columbia, including Texas and Louisiana, regulate the practice of engineering.[4] States employ similar concepts in the regulation of engineering. Such regulation typically includes the licensing of engineers as "registered professional engineers" or the equivalent.[5] For example, in Texas and Louisiana, upon obtaining a license, a registered professional engineer is required to obtain a seal in a form approved by the licensing authority.[6] The seal of a registered professional engineer indicates that the sealed work has been performed by or under the direct supervision or responsibility of the registered professional engineer identified in the seal.[7] Under standard industry practice, a registered professional engineer must seal or stamp the final version of the engineering work upon its completion.[8] The purpose of sealing engineering work is to indicate the scope of the work performed or supervised by the registered professional engineer and to establish engineering responsibility for that work.[9]

17. In the current context it also means the structures, components, and/or controls on the subject drawing have been evaluated, or do not need evaluation, for fitness-for-purpose. The seal or a registered professional engineer means that the components, structure, or control systems depicted are appropriately suited for operation.

---

[3] API RP 14J at 47.

[4] *The Professional Engineering* at 27 – 29 (Nat'l Soc. Prof. Eng. July 2007).

[5] For example, see Tex. Eng. Prac. Act § 1001.301; Rules Concerning the Practice of Engineering and Engineering Licensure, 22 Tex. Admin. Code § 137.1 ("Texas Rules"); La. R.S. 37:681 & 682(10); Cal. Bus. & Prof. Code § 6735.5; Nev. Rev. Stat. § 625.520; Utah Code § 58-22-601.

[6] For example, see Tex. Eng. Prac. Act § 1001.401(a); Louisiana Rules, Professional Engineers and Land Surveyors, 46 LA ADC Pt LXI, § 2701(A) ("Louisiana Rules"); Nev. Rev. Stat. Ann. § 625.383; Cal. Bus. & Prof. Code § 6735(a); Utah Code Ann. § 58-22-601.

[7] For example, see Texas Rules, 22 Tex. Admin. Code. § 137.31(a); Louisiana Rules, 46 LA ADC Pt LXI, § 2701(A)(3); Nevada Rules, Nev. Rev. Stat. Ann. § 625.565; **NAC 625.610 ("Nevada Rules");** Cal. Bus. & Prof. Code § 6735(a); Utah Admin. Code r. R156-22-601(1) ("Utah Rules").

[8] For example, see Texas Rules, 22 Tex. Admin. Code. § 137.31(f); Louisiana Rules, 46 LA ADC Pt LXI, § 2701(A)(4)(a)(i); Nevada Rules, **NAC 625.610;** Cal. Bus. & Prof. Code § 6735(a); Utah Rules, Utah Admin. Code r. R156-22-601(1).

[9] For example, see Texas Rules, 22 Tex. Admin. Code. § 137.31(a); Louisiana Rules, 46 LA ADC Pt LXI, § 2701(A)(4)(a)(i); Nevada Rules, **NAC 625.610;** Cal. Bus. & Prof. Code § 6735(a); Utah Rules, Utah Admin. Code r. R156-22-601(1).

18. Under industry standards and practice, generally only an individual registered professional engineer–i.e., a person–may approve or certify an engineering document such as an engineering design or drawing. An engineering firm or other engineering entity typically may not certify that engineering designs have been approved or certified by, or completed under the supervision of, a registered professional engineer.[10] Although firms may be required to register with state licensing authorities, the licensing of an engineer as a registered professional engineer extends to individuals.[11] For example, in Texas, allowing firms or entities to approve engineering designs or drawings as registered professional engineers would be contrary to the purposes of requiring engineering work to be sealed, namely, to indicate the scope of the work performed or supervised by the individual registered professional engineer and to establish engineering responsibility for that work. Essentially, allowing a Texas firm to seal or stamp engineering work as a registered professional engineer would permit the firm to issue engineering work without identifying the licensed registered professional engineer who performed or directly supervised the work.

[10] For example, see Tex. Eng. Prac. Act § 1001.405(e)(3) ("Each service, work or act performed by the business entity that is part of the practice of engineering is either personally performed by an engineer or directly supervised by an engineer who is a regular full time employee of the business entity."); Louisiana Rules, 46 LA ADC Pt LXI, § 2701(A)(4)(a)(i) ("Firms are not authorized to possess seals."); Nev. Rev. Stat. Ann. § 625.407 ("All engineering or land-surveying work done at a place of business must be performed under a professional engineer or professional land surveyor, respectively, who has been placed in responsible charge of the work and who is employed full-time at that particular place of business."); Nevada Rules, **NAC 625.610** ("Each licensee shall validate a stamp or seal by signing his name legibly in opaque ink across the face of the impression made by the stamp or seal…"); Cal. Bus. & Prof. Code § 6732 ("It is unlawful for anyone other than a professional engineer licensed under this chapter to stamp or seal any plans, specifications, plats, reports, or other documents with the seal or stamp of a professional engineer."); Utah Code § 58-22-603 ("A professional engineer or professional structural engineer may only affix the licensee's seal….").

[11] For example, see Texas Engineering Practice Act § 1001.002 **(**defining "Engineer" as a "person licensed to engage in the practice of engineering in this State"); Louisiana R.S. 37:682(4) ("'Engineer' or 'professional engineer' shall mean an individual . . . ."); Cal. Bus. & Prof. Code § 6701 ("'Professional engineer,' within the meaning and intent of this act, refers to a person…"); Nev. Rev. Stat. § 625.060 ("'Professional engineer' means a person who by reason of his or her professional education and practical experience is granted a license by the Board to practice professional engineering."); Utah Code § 58-22-102 ("'Professional engineer' means a person licensed under this chapter as a professional engineer.").

19. Additionally, a seal by a registered professional engineer typically must be an approved state seal image with the individual registered professional engineer's name and license number.

20. States regulate the practice of engineering to protect the heath, safety, and welfare of their citizens.[12] Some states began regulating the practice of engineering only after the occurrence of disasters attributable to engineering failures. For example, Texas began regulating the practice of engineering in 1937, months after hundreds died in an explosion in a school in New London caused by a natural gas leak attributed to faulty engineering. California began regulating the practice of engineering after the failure of the St. Francis Dam in 1928, which killed more than 500 people.[13]

21. A registered professional engineer duly licensed by a State typically has graduated from an engineering or science curriculum that is approved by a licensing authority, has engaged in the practice of engineering for a period of years, has passed the examination requirements set by the state, and has met minimum character requirements.[14] Further, registered professional engineers are typically subject to continuing education requirements.[15] By requiring engineering work to be approved or certified by a registered professional engineer, a client can ensure that the requested engineering work is performed by a person who meets minimum standards for education, experience, and character.

22. The active involvement of a professional engineer in the design and implementation of such a hazardous environment cannot be understated. Failure to adhere to the very strict guidelines in place can have catastrophic results, endangering the operation itself. For example, the April 20, 2010 Macondo well blowout and 83 day long oil spill in the Gulf of Mexico would almost certainly not have happened had registered professional engineers been involved with the appropriate design review and certification of the equipment involved, particularly the blowout preventer or BOP.

23. The costs for services of a licensed registered professional engineer are typically higher than for services of less experienced engineers who are not licensed registered professional engineers. As a result, unless approval or certification of engineering designs by a registered professional engineer is required and enforced, a company will have an economic incentive to use less experienced engineers, increasing the risk of harm from faulty engineering.

---

[12] For example, see Tex. Eng. Prac. Act § 1001.401(a) – (b); La.R.S. 37:681 Cal. Bus. & Prof. Code § 6704; Nev. Rev. Stat. § 625.005; Utah Rules, Utah Admin. Code r. R156-22-302c.

[13] *The Professional Engineering* at 27 – 29 (Nat'l Soc. Prof. Eng. July 2007).

[14] For example, see Tex. Eng. Prac. Act. § 1001.302 - .304; La. R.S. 37:693-95 Cal. Bus. & Prof. Code § 6751-59; Nev. Rev. Stat. § 625.183; Utah Code § 58-22-302.

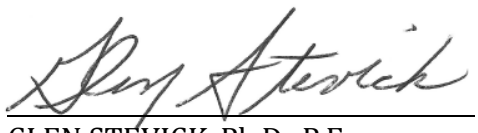
[15] For example, see Texas Rules § 137.17; La.R.S. 37:697.1 Nevada Rules, NAC 625.430; Utah Code § 58-22-304.

24. In summary:

(a) "As builting" is critical to the safe operation of a facility, which includes developing engineering designs that are clearly labeled "As-Built"; and
(b) it is critical that engineering designs be approved by a registered professional engineer.

32. Pursuant to the provisions of 28 U.S.C. §1746, I declare under penalty of perjury that the foregoing is true and correct.

Executed this 23rd day of December, 2012 in.



GLEN STEVICK, Ph.D., P.E.

ATTACHMENT E

DECLARATION OF SCOTT A. BAYLEY, CPA/ABV, CFE, CVA

1. I, Scott A. Bayley, am more than 21 years of age, and I am competent to make this declaration. The facts stated below are true and correct and are based on my personal knowledge, formal education, and professional experience.

Professional Background and Experience

2. I am a Certified Public Accountant ("CPA"), licensed in the State of Texas by the Texas State Board of Public Accountancy. I have also achieved the professional designations Accredited in Business Valuation ("ABV") by the American Institute of Certified Public Accountants and Certified Valuation Analyst ("CVA") by the National Association of Certified Valuation Analysts.

3. My professional valuation qualifications are the result of additional formal training, case studies, and testing requirements in valuation theories, methodology, and practice, and extensive professional valuation experience. In addition, I have been designated as a Certified Fraud Examiner ("CFE") by the Association of Certified Fraud Examiners based on my qualifications and experience as a CPA, my experience conducting fraud examinations, and the completion of additional training and testing related to fraud examinations.

4. I have provided auditing, accounting, and consulting services to clients in a wide variety of industries. I have extensive experience in forensic accounting and complex financial analysis in such matters as business valuations, business interruption, breach of contract, securities fraud, financial

misrepresentations, infringement of intellectual property, antitrust violations, misappropriation of trade secrets, product liability, and fidelity bond coverage claims, as well as experience in providing expert testimony.

Materials Relied Upon

5. This affidavit and the opinions contained herein are based on:

(a) historical production volumes reported by BP to the Office of Natural Resources Revenue ("OGOR Report") on a monthly basis from October 2007 to February 2011 [BPEP_ABB_00088596, Discovery Ex. No. 146];

(b) BP's Standardized Measure of Oil and Gas Report ("SMOG" Report) for years 2007 to 2010 [BPEP_ABB_03351022, Discovery Ex. No. 151 and 154];

(c) BP's Total Resources and Proved Reserves Summary ("Volume Report") as of December 31, 2010 [BPEP_ABB_03674173, Discovery Ex. No. 173];

(d) deposition testimony of Linda Gilmer, Senior Tax Advisor within the Production Tax and Royalty Center of BP, taken September 14, 2011; and

(e) documents produced in the instant lawsuit pertaining to the production values and economic benefits at the Atlantis Facility.

Opinion Regarding Economic Benefits of Atlantis Facility

6. The economic benefits of the Atlantis Facility as of December 31, 2010, including historical benefits from hydrocarbon production and future benefits from proved reserves *only*, are based on the sales value and depicted in Table 1.

Table 1
Summary of Economic Benefits as of December 31, 2010

Source of Economic Benefits (Sales)	Total Volume (mmboe)	Total Economic Benefits ($ Millions)
Historical Benefits	113.96	7,852.65
Unrisked Discovered Future Benefits:		
Proved Resources	449.80	17,863.90
	563.76	25,716.55

7. Pursuant to the Atlantis lease contracts between BP and BHP and the United States, the United States receives 12.5% royalty payments from Atlantis production. Accordingly, based on the historical benefits from Atlantis, I have estimated that the United States has received approximately $981.58 million ($7,852.65 million x 12.5%) in royalty payments as of December 31, 2010.

8. Pursuant to the provisions of 28 U.S.C. §1746, I declare under penalty of perjury that the foregoing is true and correct.

Executed this 27th day of December, 2011 in Houston, Texas.

SCOTT A. BAYLEY, CPA/ABV, CFE, CVA

ATTACHMENT F

IN THE UNITED STATES DISTRICT COURT FOR THE SOUTHERN DISTRICT OF TEXAS HOUSTON DIVISION

UNITED STATES OF AMERICA EX REL. KENNETH W. ABBOTT; KENNETH W. ABBOTT, INDIVIDUALLY; AND FOOD & WATER WATCH, INC.;	§	
Plaintiffs,	§	No. 4:09-cv-01193
vs.	§	Jury Trial Requested
BP P.L.C.; BP AMERICA, INC.; BP EXPLORATION AND PRODUCTION, INC.; AND BP PRODUCTS NORTH AMERICA INC.;	§	
Defendants.	§	

DECLARATION OF KENNETH W. ABBOTT

I, Kenneth W. Abbott, have personal knowledge of the facts and matters discussed in this declaration.

EXPERIENCE IN ENGINEERING PROJECT MANAGEMENT

1. I have worked in the field of project management for over 30 years and am familiar with the industry standard procedures for such. I am not an engineer; I manage engineering document control systems, database records, financial records and other types of management records. I provide management support for engineers by establishing project schedules and budgets and auditing their performances.

2. My employers have been among the largest engineering

construction managers in the world, including M.W. Kellogg, GTE Mobilnet, Stone & Webster, Brown & Root, Shell Oil, Jacobs Engineering and others. While I have worked on a wide variety of projects, most have involved petrochemical and energy projects, including refineries and offshore facilities.

3. Before a petrochemical plant, offshore production facility, wireless data network, or any other major project can be physically constructed, it must first be constructed on paper, or, now, in computers. Design and construction engineering documents normally go through multiple phases, beginning as design concepts and ending with documents that reflect the actual construction of the facility. Although nomenclature may vary from company to company the documentation phases are essentially the same, and include:

(a) First Phase — "Issued for Approval" or "IFA" engineering documents issued by the contractor for company comments and approval;

(b) Second Phase — "Issued for Design" or "IFD" engineering documents reissued by the contractor after company comments or concerns are incorporated;

(c) Third Phase — "Issued for Construction" or "IFC" engineering documents with the company's approval for use in

construction;

(d) Fourth Phase — "As-Built" engineering documents that represent what is actually built.

4. The phase of any particular engineering document at a given time is shown by a type of lettering designation (e.g., IFA, IFD, IFC, and as-built). At each phase, a document must be certified by an engineer or engineering staff. This act indicates the conclusion of the phase and ensures approval at each project step. Consequently, by the end of a project there exists not only the physical product, but also a complete set of company-approved as-built documents that precisely reflect its actual physical construction and the historical documentation leading to that final product.

5. Because engineering documents may change drastically from the first IFA phase to the final as-built phase, as-built engineering documents for offshore production facilities are critical to operations as they reflect precisely the design of components and systems, and can be likened to vital "blueprints" for an incredibly complex structure involving millions of moving parts and systems. Further, many of the as-built documents are relied upon to create safe operating, testing, maintenance, and training procedures.

6. My employment in this field has traditionally required that I

organize and manage these documents in order to ensure their existence and to facilitate easy access to them.

BP'S FAILURE TO MAINTAIN CRITICAL DOCUMENTS DESPITE WARNINGS

7. Beginning August 18, 2008, I was employed through a third-party employment company to work in the administrative offices of the BP Atlantis Project ("Project") at Energy Tower 1, 11700 Katy Freeway. I worked as a project control supervisor on the subsea portions of the Project with the title of "Project Services Lead."

8. My duties included supervising the databases that maintain all subsea Project documentation, and ensuring compliance with BP's Project Execution Plan. The Project Execution Plan required that each lead engineer approve and issue documents reflecting the as-built condition prior to deployment to the field.

9. Soon after beginning work on the Project, I learned that BP Offshore Operations did not have complete set of BP-approved as-built engineering documents for many subsea components of the BP Atlantis Project, including such critical systems as Piping and Instrument Diagrams (P&IDs), mechanical, controls, and installation engineering documents.

10. I was forwarded an internal email written by my immediate predecessor, Barry Duff, explaining his refusal to produce certain documents to Offshore Operations because such documentation lacked as-

built approval. Exhibit A, Email Forwarded from Mr. Duff Regarding Documentation Deficiencies, Sept. 2, 2008. This email, which was originally written prior to my employment, conveyed that:

a. "hundreds, if not thousands" of critical documents have never been finalized;

b. final documentation was lacking for P&IDs, mechanical, controls, and installation engineering procedures;

c. "this could lead to catastrophic Operator errors due to their assuming that that drawing is correct. Turning over incomplete drawings to the Operator for their use is a fundamental violation of basic Document Control, the IM Standard[,] and Process Safety Regulations."

10. I received another email forwarded from Mr. Duff regarding his efforts to resolve the lack of proper engineering documents. The email noted that Mr. Duff's attempt to implement a plan to fix the documentation problem — a plan that would cost BP $2 million — was not approved by upper management. Instead, a more "cost-effective" plan needed to be configured despite that "the critical issue during hurricane season is to have easily available, a set of documents for the installed SS1 equipment." Exhibit B, Email Forwarded from Mr. Duff Regarding Cost Effective Plan to Fix Documentation Problems, Aug. 14, 2008.

11. To better track BP documentation, my project team developed a database that stored all engineering documents, including drawings, plans, and specifications. This database itemized and coded each document with its respective approval status.

12. After examining the electronic document log in the database, I confirmed the lack of documentation and informed management of such. Based on a November 28, 2008 analysis of the database, the following document deficiencies existed: (1) only 50 of the project's 7,176 drawings (less than 1%) detailing its subsea components had been "approved for design" by an engineer; (2) only 459 drawings (less than 7%) had been "approved for construction"; (3) only 274 (less than 4%) had been approved as "as built"; and (4) a total of 6,393 (90%) of the project's drawings had never been engineer approved.

13. The Table attached as Exhibit C shows the completion status for all documents in the various sectors of the Project. Exhibit C, Completion Status for all Subsea Documents. For subsea components, which include the wellhead, tree, manifolds, pipelines and flowlines, controls, and risers, less than 10% of the documents were certified as approved by engineering. It is my understanding that documents relating to these subsea components are critically important to a system handling oil and gas flows located thousands of feet below the surface of the sea and subject to

extreme pressures and temperatures.

14. In November, 2008, at my insistence, William Broman, Atlantis Subsea Director, emailed engineering leads at the BP Atlantis Facility urging their cooperation in resolving the subsea documentation issue. Soon thereafter, Mr. Broman held a staff meeting with lead engineers in which I was present. Despite BP internal procedures requiring as-built documentation, certain lead engineers questioned the need for as-built engineering documents or the need for their review and approval of engineering documents in general. The meeting was hostile and ended without resolution.

15. After months of contacting management regarding these problems, on February 3, 2009, I was discharged. To the best of my knowledge, the documentation issues have not been resolved.

16. On March 4, 2009, via email, I reported the documentation issues to the BP's Ombudsman office, and indicated to the Ombudsman that there "ha[d] not been any progress on approving the North Flank as-built drawings," which are the drawings corresponding to another drilling center approved by MMS in 2007. Exhibit D, Mr. Abbott Email to Ombudsman, March 4, 2009. That same day, the office of the Ombudsman's office acknowledged the email, saying that it would require more time to investigate these concerns.

17. On April 13, 2010, after completing its investigation, the Ombudsman office's verified my complaints, stating "[y]our concerns about the project not following the terms of its own Project Execution Plan were substantiated," and "[t]he concerns that you expressed about the status of the drawings upgrade project were not unique to you. Exhibit E, Letter from Ombudsman Verifying Documentation Issues, p. 1, April 13, 2010. It was a challenged to the Project and of concern to others who raised the concern before you worked there, while you worked there, and after you left." Exhibit E, p. 1.

ATTEMPTS TO NOTIFY THE GOVERNMENT OF BP'S DOCUMENTATION ISSUES

18. On March 9, 2009, I emailed Earl Devaney, Inspector General of the Department of the Interior a detailed account of the critical document deficiencies at the BP Atlantis Facility. Exhibit F, Mr. Abbott Email to DOI Solicitor Regarding Documentation Issues, March 9, 2009. Beyond confirming the receipt of my email, the Department of Interior issued no substantive response.

19. Soon thereafter, I hired attorneys from the firm of Perry & Haas in and provided them materials supporting the lack of documentation. On my behalf, my attorneys wrote a letter to the Attorney General in which they detailed BP's documentation issues and reproduced the supporting materials. Through my attorneys, I initiated a *qui tam* action to force BP to

return to the Government monies it had fraudulently obtained by operating in violation of certain laws. I also provided the Government a report from an engineer who explained the immediate gravity created by the documentation deficiencies. Exhibit G, Report of Michael Sawyer, P.E., C.S.P., May 12, 2009.

20. On my behalf, my attorneys conferred telephonically on May 19, 2009 with a Department of Justice attorney, Silvia Murphy of the Department of Interior, and four representative from the Minerals Management Service, Michael Saucier, Bryan Domangue, Cathy Moser, and Lars Herbst. In response to my claims, MMS representatives took the position that the BP Atlantis Facility was safe and no action was warranted.

21. On May 27, 2009 my attorneys wrote a letter to Ms. Murphy of the Department of the Interior again detailing the documentation issues at the BP Atlantis Facility and warning of the imminent risks posed by the operation of this facility. Exhibit H, Perry & Haas Letter to Ms. Murphy, May 27, 2009.

22. Soon thereafter I participated in a meeting with the Department of Justice attorney, Ms. Murphy of the Department of Interior, and representatives of MMS, Mr. Saucier, Mr. Domangue, Ms. Moser, and Mr. Herbst. Again, the MMS representatives expressed that BP Atlantis was safe.

23. Since that time, I have relied on my attorneys and Food & Water Watch to seek action from the Government. I am aware that they have continually notified MMS of the documentation deficiencies at the BP Atlantis Facility and the importance of taking action to prevent a catastrophe in the Gulf of Mexico.

MMS'S CURRENT INVESTIGATION

24. MMS states that it initiated an investigation on April 19, 2010 with the purpose of "determining if there is any evidence of nonconformance with applicable regulations, standards, or specifications and any other information that might indicate that any documentation for Atlantis is inadequate or incomplete." (Declaration of Michael J. Saucier, Rec. Doc. 18-1, at ¶ 7)

25. Such investigation was set to be completed by end of May, 2010, and MMS now indicates that it needs approximately three months to complete its investigation.

26. Given my experience with document management, three months is an unreasonable and arbitrary amount of time to resolve whether documentation is inadequate or incomplete. Because the documentation is stored in electronic format on a database that indexes each document's current approval status, MMS can easily verify that the

required documentation does not exist. A qualified individual should be able to ascertain this fact within a few hours at most.

MY INTEREST IN SHUTTING-IN THE BP ATLANTIS FACILITY

27. I have strong ties to the Gulf of Mexico. My family and I reside near the Gulf of Mexico. My family and I have vacationed and fished in the Gulf of Mexico, and I continue to use it for recreational purposes.

28. I understand that a spill from the BP Atlantis Facility could be many times larger than the current spill from the Deepwater Horizon Facility. A spill from the BP Atlantis Facility will impair my and my family's ability to enjoy the Gulf of Mexico and its fruits.

29. My work and career are tied to the oil and gas industry, much of which has been located in the Gulf of Mexico. To sustain future production of oil and gas — and by proxy my job in the oil and gas industry — it is necessary that the present production of oil and gas be done safely. An additional catastrophe in the Gulf of Mexico will undoubtedly affect my ability to gain future employment related to the production of oil and gas in the Gulf of Mexico.

30. Because MMS has failed to enforce the applicable laws and regulations, my personal and economic livelihood is at immediate risk. MMS's failure to obtain the necessary information from BP Atlantis Facility allows this facility to operate without meeting the requirements imposed

by law to prevent accidents, and protect the marine environment and resources in the Gulf of Mexico, in which I have a strong aesthetic interest. The failure of MMS to enforce these environmental and safety laws directly harms my interests in the health and quality of the Gulf of Mexico.

Pursuant to the provisions of 28 U.S.C. § 1746, I declare under penalty of perjury that the foregoing is true and correct.

Executed this 24th day of June, 2010.

Kenneth W. Abbott

Kenneth W. Abbott

Exhibit A

From: "Duff, Barry C" <Barry.Duff@bp.com>
Date: September 2, 2008 11:13:45 AM CDT
To: "Abbott, Ken \(SWIFT\)" <Ken.Abbott@bp.com>, "Ken Abbott \(Home\)" <kwabbott@comcast.net>
Subject: FW: P&IDs For Operations

From: Duff, Barry C
Sent: Friday, August 15, 2008 7:51 AM
To: Naseman, Bill E; Broman, William H(HOU) (william.broman@bp.com)
Subject: FW: P&IDs For Operations

Bill/Bill,

Per other e-mails, Tinikka has been asked by the Operations Document Control person (Christy), to provide all the Subsea P&IDs **regardless of their status** (e.g, complete or not complete,handed over or not handed over). Christy will not say who has made the request, but we believe it is coming from Nita Oza to support an IM Evaluation she is leading. The reason this is not a straight forward request is the document number scheme is so fundamentally flawed that all drawings are grouped under the document type DWG vs. Mechanical, Electrical, P&ID, PFD etc).

Some back ground on the P&ID Request from Operations. As you can see from the note below. The P&IDs for Subsea are not complete have have not been approved or handed over to Operations.

The current procedures are out of date. However in principle, the project document control person (Tinikka), function is to facilitate the handover of approved and final documents to the Operator (BP). For Atlantis this is Christy in Alastair's group.

The risk in turning over drawings that are not complete are:

1) The Operator will assume the drawings are accurate and up to date. This could lead to catastrophic Operator errors due to their assuming the drawing is correct. Turning over incomplete drawings to the Operator for their use is a fundamental violation of basic Document Control, the IM Standard and Process Safety Regulations.

2) Having the project document control person turnover drawings that are not complete, places the onus on her that they are the most current version. Currently there are **hundreds if not thousands** of Subsea documents that have never been finalized, yet the facilities have been turned over. In some cases, Tinikka does not have all the versions. Turning over the version she has, runs the risk of the wrong version being used.

The point here is that even if we condoned handing over documents that were not approved/ handed over, we run the risk of not handing over the most current version, (the one theoretically closest to being the most accurate).

To re-iterate, it is fundamentally wrong to turn over documents to Operations (for Operations use and purposes), before they have been formally finalized and Handed Over to Operations.

I have instructed Tinikka to not honor this request and to refer them to me. I may require

both of your support in responding to this request.

Please contact me if you have any questions.

Best Regards,

Barry C. Duff

BP DW GoM Production
Atlantis Subsea Team
11700 Old Katy Road, Suite 150
Office number 4.64
Houston, Texas 77079
Office: +1 (281) 249-1510
Cell: +1 (713) 408-1933
Fax: +1 (281) 249-4323
Together, we will make Atlantis the safest, cleanest, most reliable and best performing asset!

From: Curtis, Tinikka (NES)
Sent: Thursday, August 14, 2008 4:58 PM
To: Vass, Malcolm (Technip)
Cc: Duff, Barry C
Subject: RE: P&IDs For Operations

Hi Malcom,

Thank-you very much for providing updated status regarding the P&ID request from the Operations group.

Thanks,

Tinikka Curtis
281-249-8978
Tinikka.Curtis@bp.com

-----Original Message-----
From: McVass@technip.com [mailto:McVass@technip.com]
Sent: Thursday, August 14, 2008 4:41 PM
To: Curtis, Tinikka (NES)
Subject: Fw: P&IDs For Operations

Tinikka,

With respect to the Atlantis P&IDs. We are currently

reviewing all P&IDs
with the objective of providing Operations a package of as-built drawings.
This will include:

Subsea architectural drawings,
Subsea piping / flowline schematics,
Subsea P&IDs.

This package should be available within the next 2 to 3 weeks, allowing for
routing through our document control process.

Hope this helps.

Regards,

Malcolm Vass
Technip PM - BP Atlantis
281 249 1934

Exhibit B

From: Gregg, Andrew (Gregg Valdes & Assoc)
Sent: Thursday, August 14, 2008 5:21 PM
To: Duff, Barry C; Garland, Mike L
Cc: Naseman, Bill E
Subject: RE: Progress Report - ATL Subsea Document Control

Barry,

When we met with the Atlantis team on July 1st, we agreed to review and socialize your draft proposal of the procedure. To date we have disucussed it (in its hard copy form) with Thunder Horse, who have pointed out some discrepancies with what they are doing, and with Dave Turner in Subsea Ops.

Our impression from your presentation was that the Project had not bought into this for existing work, only future work. We also discussed that, if the cost implications were excessive (your estimate was $2M?), we could provide an alterative to re-numbering by using attributes for the documents, which is something that really would have to happen anyway before anything could be re-numbered.

Mike Garland met with Bill Naseman today and Bill has requested further socialization with the next suite of Projects. Bill does not wish to change,
1. a shared program document which would now be specific to Atlantis and 2. to create a one off approach.

Bill has requested that Mike meets with the other Subsea teams next week to discuss further.

Whatever the eventual plan we need to figure out the most cost effective way to proceed, attributes versus re-numbering.

As an aside, Dave Turner reminded me that the critical issue during hurricane season is to have easily available, a set of documents for the installed SS1 equipment.

Regards
Andy

Exhibit C

Sector No.	Total	Issued For Design	Issued For Constr.	As-Built	Not Approved	%Not Approved
30 Subsea Systems (wellheads, manifolds, flowlines and risers)	1,266	27	86	101	1,052	83%
31 Wellheads	22	0	0	0	22	100%
32 Trees	570	1	9	1	559	98%
33 Manifolds	161	5	4	0	152	94%
34 Pipelines/Flowlines	2,383	1	108	0	2,274	95%
35 Controls	1,351	14	36	36	1,265	94%
36 Umbilical	454	2	201	56	195	43%
37 Risers	750	0	1	80	669	89%
38 Installation	219	0	14	0	205	94%
TOTALS	7,176	50	459	274	6,393	89%

Exhibit D

From: "Kenneth Abbott" <kwabbott@comcast net>
Subject: **FW: My complaint regarding BP failure to perform on their Gulf of Mexico Atlantis DC1 lease and their retaliatory discharge of me**
Date: March 10 2009 3:21:46 PM CDT
To: <kwabbott@comcast net>

I completed a DOI complaint form on 3/10/09 with same info and nemiled it with refernce #e003973

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Monday, March 09, 2009 2:01 PM
To: 'Earl_Devaney@doioig.gov'
Subject: My complaint regarding BP failure to perform on their Gulf of Mexico Atlantis DC1 lease and their retaliatory discharge of me

Dear Mr. Devaney:

Attached below is a complaint I have made to the ombuds office at BP regarding my retaliatory discharge in February 2009 for standing up for a female employee who was being discriminated against and harassed by another male employee, and for having blown the whistle on unsafe, incomplete, and fraudulent practices by certain members of the BP engineering team on their Atlantis project DC1 platform which is currently producing in the Gulf of Mexico. Since the Department of Interior administers the leases for this offshore production through its MMS office, I am writing to advise you that even though I have complained about this incomplete engineering in the past, BP has not corrected the problem and the unit is still producing without "as-built" drawings as of 12/08, (and up to this date to the best of my knowledge).

I know that the Obama administration has promised to clean up contract and lease fraud and incomplete and dangerous performance. I believe that since this unit has been operating since December 2007 that the final, as built engineering drawings should have been issued then to ensure safe operation by the site. The BP project execution plan calls for as built drawings at startup (see email below) and I am sure that their site development and production plan issued to you as part of the lease agreement also called for completion of all engineering at startup. This has not happened and BP has taken a "we don't have to fix it" attitude and got rid of me for trying to highlight the problem and get it fixed by the engineers.

Please intervene with BP to get these engineering drawings completed and to operations to prevent any major offshore failures, and also please enforce the law regarding non-retaliation against employees on offshore projects.

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Wednesday, March 04, 2009 10:47 AM
To: 'Pasha.eatedali@ombudsmanecp.com'
Subject: More information for your investigation

Pasha – I have attached below a further complaint against BP for your investigation:

As I have previously stated, I believe that Bill Naseman has retaliated against me with my wrongful termination primarily because I stood up for a female employee who was being discriminated against and harassed by Alan Clark. I also believe that a secondary reason for my termination was retaliation because of my blowing the whistle during November 08 through January 09 regarding unsafe practices in offshore production unit drawing correctness and completion in violation of US Code, Title 43, chapters 29 and 36, public policy, and BP procedures on the Atlantis project.

Specifically, during November 08, I advised Bill Naseman and the project manager Bill Broman, as well as the project team, both verbally and then by email (see attached email – Atlantis document control proposal) that I and Tinika Curtis (Document Controller) had observed a failure by certain project lead engineers ([redacted]) to ensure the proper coding of drawings they approved, (i.e. which sector did the particular equipment item belong to) and the failure to issue "as built drawings" to operations for the DC1 offshore production unit that had been complete and producing for a year. As shown in the email, the attachments show a record of the drawing status, and you can see in the revision status row, that many drawings are not issued as revision 0), or As Built, and most do not have "as built" stamped on them as required by GOM drawing procedures. It is critical that offshore operators have a complete set of as-built drawings when they start up a unit for their correct and safe assessment of operating problems

on this unit. Yet even though the DC1 offshore wells had been operating since December 07, the operations group still did not have as-built drawings as of December 08. Tinika and I discussed this problem at length with the leads and project management and Bill Naseman. We prepared a plan to remedy this situation but it met much resistance and complaints from the above lead engineers on the project.

In particular, in Bill Broman's staff meeting on December 2, 2008 , [redacted] questioned why the leads needed to check the drawings for correctness when they signed them off, and why did they need to push for final as-built drawings. They were very argumentative with me about this, and they also asked what procedure said they had to do these things. I responded that it was BP procedure as outlined in our Project Execution plan to do so and every oil company required their lead engineers to review drawings for accuracy and to obtain as-built final drawings from all vendors for operations before startup (see attached email - approval by the leads, which I sent them after the meeting on 12/17/08 with the procedure attached, which had been previously issued to them at the beginning of the project). Section 6.2 of the Atlantis Project Execution Plan states the following:

As-Built Documentation
The Lead Engineer for each discipline area will ensure that all technical documentation is updated to reflect the as-built condition of the equipment prior to deployment to the field.

I also told them that when the DC1 unit started production one year ago, that final "as built" drawings should have been turned over to offshore operations, and they had not been, and that must be remedied as soon as possible.

The leads have been very unhappy with the need to get these drawings correct and issued as built to operations, and they have complained to Naseman and Bill Broman, the PM. In a staff meeting with Bill Naseman during December 08, I tried to discuss the subject of these leads refusing to properly review drawings and assure they were correct and final issued, and Bill Naseman did not want to discuss it or do anything to resolve it, he was too worried about keeping the good old boys happy. Several other staff members heard my comments, including Eddie Antoine, John Vernor, and Frank Schoffield.

When Bill Naseman met with me on 1/12/09 to blame me for Alan Clark's departure, he also said he had been told by the leads that I was too aggressive in getting the engineers to correct their drawings and get them finalized as built and to operations. I responded that I did not think it was too aggressive to try and get final as-built correct drawings issued to operations after the unit had been in operation for over a year (since December 07). I believe that Naseman was more concerned in covering up for the good old boys (the BP leads) and keeping them happy, than he was in doing the right thing for BP. Ron Berger is the operations manager on the Atlantis project and he is aware of this problem (since he has not received any DC1 as-built drawings) and Tinika and I met with him in early January 09 to discuss the problem with him and advise our plan to resolve this unsafe situation.

To my knowledge, operations still does not have as-built final correct drawings for DC1, nor has there been any progress on the North Flank as-built drawings, which is scheduled to start up in mid-year 2009. I have also advised Naseman and the project leads/manager that we need a drawing schedule for these as-built drawings from the vendors but these leads (Hughes, Schwebel, Kirkham) refuse to ask the vendors for any drawing schedules, so how can they know when or if these as-built drawings will be done. BP project execution policy also calls for a drawing tracking schedule on all projects, and that is being ignored by the Atlantis engineering team, and we have received no support from Naseman to make it happen.

In conclusion, I believe that BP is in violation of US Code Title 43, Chapter 29, regarding their lease production and operations schedule which called for completion of all drawings as built when the DC1 unit started up in December 2007. First, BP should report this failure to perform per their lease requirements to the Department of the Interior, Minerals Management Group. Second, they should work to immediately resolve the incomplete drawings problem to ensure the safety of their offshore operation. Third, they should reinstate my job, since I was retaliatory discharged in violation of Title 42, chapter36, subchapter 3 of the US code.

Exhibit E

OFFICE OF THE OMBUDSMAN

Stanley Sporkin
Ombudsman
(USDC Judge, Retired)

1300 Eye Street, NW - Suite 900
Washington, DC 20008
202-682-7146

April 13, 2010

Kenneth Abbott
Via e-mail

Dear Mr. Abbott:

This letter is in response to your email of March 23, 2010. Based on your e-mail, I am afraid that there seems to be some confusion regarding our meeting of February 23, 2010. I apologize for the delay in getting back to you, but have been addressing some major health issues with a family member.

In order to be clear, I will repeat here the essential findings of the investigation that the BP Office of the Ombudsman conducted into your allegations and concerns:

- [redacted]

- [redacted]

- Your concerns about the project not following the terms of its own Project Execution Plan were substantiated, and addressed by a BP Management of Change document. The Project Execution Plan is a BP internal document, and not a regulatory requirement. We did not do a comprehensive documentation audit regarding the documentation issues on Atlantis. As you know, you did not raise that issue until after the initial investigation of your concerns was completed, and only reviewed the issue you raised to us;

- The concerns that you expressed about the status of the drawings upgrade project were not unique to you. It was a challenge to the Project and of concern to others who raised the concern before you worked there, while you were there, and after you left. You did not "blow the whistle" on the problem until, apparently, after you left employment at BP. Your raising the issue did not result in any change to the schedule of BP addressing the issues.

- Your action in raising the documentation/compliance issues to your management was not a driver for any action against you;

- We have made recommendations to BP, as a result of your situation, in an effort to ensure that other contractors do not find themselves ignorant of the length of the contract time for their appointment with BP, along with several other recommendations. We have not yet been briefed on what actions have been taken in response to our recommendations.

As Pasha and I explained to you, we do not issue our reports to the Concerned Individuals that contact our office. We do, as we did with you, provide a detailed briefing regarding the results of our investigation. We offered to provide such a briefing to you a long time ago, and did not hear from you. I did explain to you that our work and reports are not the result of Attorney-Client work since we do not serve as BP's legal counsel.

In order to ensure that we do not have further miscommunications, I would request that any further questions you have for our office made be in writing.

We wish you the best of luck in your future endeavors [redacted].

Sincerely,

Billie Pirner Garde
Deputy Ombudsman

Exhibit F

From: "Kenneth Abbott" <kwabbott@comcast.net>
Subject: **FW: My complaint regarding BP failure to perform on their Gulf of Mexico Atlantis DC1 lease and their retaliatory discharge of me**
Date: March 10 2009 3:21:46 PM CDT
To: <kwabbott@comcast.net>

I completed a DOI complaint form on 3/10/09 with same info and nemiled it with refernce #e003973

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Monday, March 09, 2009 2:01 PM
To: 'Earl_Devaney@doioig.gov'
Subject: My complaint regarding BP failure to perform on their Gulf of Mexico Atlantis DC1 lease and their retaliatory discharge of me

Dear Mr. Devaney:

Attached below is a complaint I have made to the ombuds office at BP regarding my retaliatory discharge in February 2009 for standing up for a female employee who was being discriminated against and harassed by another male employee, and for having blown the whistle on unsafe, incomplete, and fraudulent practices by certain members of the BP engineering team on their Atlantis project DC1 platform which is currently producing in the Gulf of Mexico. Since the Department of Interior administers the leases for this offshore production through its MMS office, I am writing to advise you that even though I have complained about this incomplete engineering in the past, BP has not corrected the problem and the unit is still producing without "as-built" drawings as of 12/08, (and up to this date to the best of my knowledge).

I know that the Obama administration has promised to clean up contract and lease fraud and incomplete and dangerous performance. I believe that since this unit has been operating since December 2007 that the final, as built engineering drawings should have been issued then to ensure safe operation by the site. The BP project execution plan calls for as built drawings at startup (see email below) and I am sure that their site development and production plan issued to you as part of the lease agreement also called for completion of all engineering at startup. This has not happened and BP has taken a "we don't have to fix it" attitude and got rid of me for trying to highlight the problem and get it fixed by the engineers.

Please intervene with BP to get these engineering drawings completed and to operations to prevent any major offshore failures, and also please enforce the law regarding non-retaliation against employees on offshore projects.

From: Kenneth Abbott [mailto:kwabbott@comcast.net]
Sent: Wednesday, March 04, 2009 10:47 AM
To: 'Pasha.eatedali@ombudsmanecp.com'
Subject: More information for your investigation

Pasha – I have attached below a further complaint against BP for your investigation:

As I have previously stated, I believe that Bill Naseman has retaliated against me with my wrongful termination primarily because I stood up for a female employee who was being discriminated against and harassed by Alan Clark. I also believe that a secondary reason for my termination was retaliation because of my blowing the whistle during November 08 through January 09 regarding unsafe practices in offshore production unit drawing correctness and completion in violation of US Code, Title 43, chapters 29 and 36, public policy, and BP procedures on the Atlantis project.

Specifically, during November 08, I advised Bill Naseman and the project manager Bill Broman, as well as the project team, both verbally and then by email (see attached email – Atlantis document control proposal) that I and Tinika Curtis (Document Controller) had observed a failure by certain project lead engineers ([redacted]) to ensure the proper coding of drawings they approved, (i.e. which sector did the particular equipment item belong to) and the failure to issue "as built drawings" to operations for the DC1 offshore production unit that had been complete and producing for a year. As shown in the email, the attachments show a record of the drawing status, and you can see in the revision status row, that many drawings are not issued as revision 0), or As Built, and most do not have "as built" stamped on them as required by GOM drawing procedures. It is critical that offshore operators have a complete set of as-built drawings when they start up a unit for their correct and safe assessment of operating problems

on this unit. Yet even though the DC1 offshore wells had been operating since December 07, the operations group still did not have as-built drawings as of December 08. Tinika and I discussed this problem at length with the leads and project management and Bill Naseman. We prepared a plan to remedy this situation but it met much resistance and complaints from the above lead engineers on the project.

In particular, in Bill Broman's staff meeting on December 2, 2008 , [redacted] questioned why the leads needed to check the drawings for correctness when they signed them off, and why did they need to push for final as-built drawings. They were very argumentative with me about this, and they also asked what procedure said they had to do these things. I responded that it was BP procedure as outlined in our Project Execution plan to do so and every oil company required their lead engineers to review drawings for accuracy and to obtain as-built final drawings from all vendors for operations before startup (see attached email - approval by the leads, which I sent them after the meeting on 12/17/08 with the procedure attached, which had been previously issued to them at the beginning of the project). Section 6.2 of the Atlantis Project Execution Plan states the following:

As-Built Documentation
The Lead Engineer for each discipline area will ensure that all technical documentation is updated to reflect the as-built condition of the equipment prior to deployment to the field.

I also told them that when the DC1 unit started production one year ago, that final "as built" drawings should have been turned over to offshore operations, and they had not been, and that must be remedied as soon as possible.

The leads have been very unhappy with the need to get these drawings correct and issued as built to operations, and they have complained to Naseman and Bill Broman, the PM. In a staff meeting with Bill Naseman during December 08, I tried to discuss the subject of these leads refusing to properly review drawings and assure they were correct and final issued, and Bill Naseman did not want to discuss it or do anything to resolve it, he was too worried about keeping the good old boys happy. Several other staff members heard my comments, including Eddie Antoine, John Vernor, and Frank Schoffield.

When Bill Naseman met with me on 1/12/09 to blame me for Alan Clark's departure, he also said he had been told by the leads that I was too aggressive in getting the engineers to correct their drawings and get them finalized as built and to operations. I responded that I did not think it was too aggressive to try and get final as-built correct drawings issued to operations after the unit had been in operation for over a year (since December 07). I believe that Naseman was more concerned in covering up for the good old boys (the BP leads) and keeping them happy, than he was in doing the right thing for BP. Ron Berger is the operations manager on the Atlantis project and he is aware of this problem (since he has not received any DC1 as-built drawings) and Tinika and I met with him in early January 09 to discuss the problem with him and advise our plan to resolve this unsafe situation.

To my knowledge, operations still does not have as-built final correct drawings for DC1, nor has there been any progress on the North Flank as-built drawings, which is scheduled to start up in mid-year 2009. I have also advised Naseman and the project leads/manager that we need a drawing schedule for these as-built drawings from the vendors but these leads (Hughes, Schwebel, Kirkham) refuse to ask the vendors for any drawing schedules, so how can they know when or if these as-built drawings will be done. BP project execution policy also calls for a drawing tracking schedule on all projects, and that is being ignored by the Atlantis engineering team, and we have received no support from Naseman to make it happen.

In conclusion, I believe that BP is in violation of US Code Title 43, Chapter 29, regarding their lease production and operations schedule which called for completion of all drawings as built when the DC1 unit started up in December 2007. First, BP should report this failure to perform per their lease requirements to the Department of the Interior, Minerals Management Group. Second, they should work to immediately resolve the incomplete drawings problem to ensure the safety of their offshore operation. Third, they should reinstate my job, since I was retaliatory discharged in violation of Title 42, chapter36, subchapter 3 of the US code.

Exhibit G

APEX SAFETY CONSULTANTS

1301 Regents Park Drive
Suite 101
Houston, TX 77058-2536
(281) 488-1507
(281) 488-1506 (fax)
Web Site: http://www.apexsafety.com

Michael E. Sawyer, P.E., CSP

BP Atlantis Report **May 12, 2009**

My name is Mike Sawyer. I am more than 21 years of age, and I am competent to testify. I am a Registered Professional Engineer in Texas, hold a Bachelor of Science in Safety Engineering from Texas A&M University, and have over 25 years of experience in industrial safety programs and process safety engineering in the oil and gas industries. This report is based on my professional knowledge, formal education, and process safety experience, as well as the documents reviewed. My CV is included as Attachment 1.

I have been asked to evaluate information related to the BP Atlantis project. After a thorough examination and review of the available documents, including, in particular a BP database file of the engineering documents for Project Atlantis Subsea named "DC-1 n SS-1 Closeout – Sector Report Rev A; November 2008 ("database"); based on this review, it is my professional opinion that:

1. Time is of the essence in avoiding an Outer Continental Shelf (OCS) environmental disaster, Atlantis production should be shut in until resolution of its design short comings is complete and a thorough inspection confirms that critical breaches have been satisfactorily resolved.

2. It is inconceivable that BP could justify the risk of commissioning Atlantis production without completed design documentation reflecting the latest approved design version especially since modifications and additions of Atlantis' subsea risers and umbilicals are continuing.
3. In contrast to Federal law and good engineering practices, the majority of subsea design documents in the database were identified as unapproved by BP after Atlantis began production.
4. Atlantis began production of oil on October 6, 2007[i] although a large portion of its subsea safety critical drawings, documents, specifications, and certificates were not in final, "as-built" status. The lack of "as-built" design documents is a violation of Federal requirements under the Department of Interior MMS Safety and Environmental Management Systems as specified in 30 CFR Part 250. In particular, "as-built" documentation violations include 30 CFR 250.903and 905.
5. The absence of a complete set of final, up-to-date, "as-built" engineering documents, including appropriate engineering approval, introduces substantial risk of large scale damage to the deep water Gulf of Mexico(GOM) environment and harm to workers, primarily because analyses and inspections based on unverified design documents can not accurately assess risk or suitability for service.
6. There is no valid engineering justification or rational excuse for these violations and short cuts.

7. Evaluation of the database for Drill Center 1 (DC-1) revealed incomplete design documents in the Wellhead, Trees, Manifolds, Pipelines, Controls, Umbilicals, Riser, and Installation subsea "sectors:"
    a. Only 303 out of 2,108 (approximately 14%) of the referenced subsea P&IDs in the database had been "issued for construction" or "issued for design" with only 1 being "as-built." Thus, 85% have no final approval with only a miniscule percentage "as-built."
    b. Less than 3% of the DC-1 Welding Procedure Specifications (WPS) and Procedure Qualification Records (PQRs) were listed as "issued for construction" or "issued for design," making over 95% having no final approval at all. This calls into question the quality of thousands of critical welds on subsea components. A very small number of sub-quality welds, perhaps a single bad weld, could have catastrophic consequences.
    c. Inspection requirements also remained unapproved well after production began; calling into question the quality of the subsea equipment inspection program.
    d. Safety shutdown logic drawings for DC-1 controls were listed as "requiring update;" lack of final, approved, "as-built" SSD logic calls in question the efficacy and reliability of critical safety shutdown systems.
8. The wide spread pattern of unapproved design, testing, and inspection documentation on the Atlantis subsea project creates a risk of a catastrophic incident threatening the GOM deep water environment and the safety of platform workers. The extent of documentation

discrepancies creates a substantial risk that a catastrophic event could occur at any time.

9. Each of these categories of documents (P&IDs, WPS/PQRs, inspections, and safety shutdown logic) is extremely critical to the safe operation of the platform and its subsea components. The requirements for engineering approval at each stage through final, "as-built" status are intended to verify proper engineering, proper fabrication and construction, and to support proper development of a SEMP. The widespread absence of proper documentation leads to a higher probability of engineering and/or fabrication errors; without "as-built" documents it is virtually impossible for the subsea systems to be properly analyzed, operated and maintained for a substantial period of time, which could lead to a catastrophic failure.

10. Engineering shortcuts are especially critical for Project Atlantis because it is currently the deepest moored floating production facility in the world. The extreme depth of Atlantis operations (greater than 7,000 ft) poses exceptional challenges from engineering, construction, operational and maintenance standpoints. While design documentation shortcuts are unacceptable for any engineering project, the accuracy and detail of Atlantis subsea engineering and design is especially vital to safe operations and protection of the environment; any subsea failure may result in devastating damage to GOM waters.

11. Internal BP emails document management awareness of the situation and its potential for catastrophe. [Duff email dtd 8-15-08 to Naseman & Broman] The emails acknowledge that management was aware that thousands of "as-built" engineering drawings for Atlantis subsea do not exist; versions which exist were not complete, had not been

approved, and had not been provided to Atlantis operations. [Duff email dtd 8-15-08 to Naseman & Broman]. This is in direct violation of BP internal procedures, Federal law (MMS requirements), and API recognized practices. [see BP Subsea Project Execution Plan (PEP) Doc No. 1440-10-PM-RP-0001, 30 CFR 250.903 and 905, RP 75, and API Q1/TS 29001]

12. The danger of a safety and/or environmental incident occurrence is real and will continue on Atlantis until the "as-built" design and adequate inspection/testing can be documented in accordance with recognized standards and MMS federal requirements.

13. An accurate and completed "as-built" drawing package reflecting the latest design or revision of what was actually installed is the fundamental building block of a Safety and Environmental Management Program (SEMP). The crux of the issue is not that Atlantis has merely failed to verify its "as-built" subsea documents. The real issue is that without verification of the as-built configuration and design details, crucial flaws starting with compilation of process design information can exist in the SEMP. Unless corrected, these flaws can permeate throughout the SEMP elements such as hazard analysis, management of change, and mechanical integrity. This risk is well understood by BP as evidenced in an internal email whereby it was perceived as having the potential to "...lead to catastrophic operator errors..." [Duff email dtd 8-15-08 to Naseman & Broman]

14. There is also a danger that reliance upon unapproved P&IDs and incomplete design documentation for HAZID and HAZOP Studies may actually increase the risk of operational mistakes, training errors, and mis-calculations during future design changes. Safety and

environmental requirements specified in API RP 75 provide the minimum documentation and information requirements that must be met for compliance with SEMP. Furthermore, API RP 14J requires that the operator maintain P&IDs and design information, along with mechanical, and safety information and API Q1/TS29001 outlines other recognized design and development requirements in accordance with ISO specifications.

15. Discrepancies and failures to maintain design documentation control result in an inability to recognize the current design or to establish that the installed design meets good engineering practice. For example, the failure to document actual work performed may result in failures as simple as installing a check valve backwards. Yet, a check valve positioned backwards is alleged to have resulted in the near sinking of the BP Thunder Horse platform.

16. Likewise, incomplete or inaccessible documentation can easily lead to flawed testing and inspection as well as failure to accurately assess risk through hazard analysis. These issues were also identified as contributing factors to the BP Texas City explosion of March 5, 2005 [CSB Report No. 2005-04-I-TX] which killed 15 people, injured hundreds, and resulted in BP's guilty plea to a Federal criminal information. Similar issues are the probable causes of an additional series of releases at the Texas City Refinery averaging more than one annually, with an average death rate of about one per year, from 1999 to the present.

Resolution of Documentation Issues

Due to the crucial safety and environmental dangers of operating Atlantis without "as-built" subsea design documentation, production should be shut in immediately until complete and proper "as-built" engineering documentation is created, MMS verification audits performed, and completed as-built documents delivered to operations.

Final resolution will require:

1) an audit of the remainder of the Atlantis Project as well as the Subsea portion, to make a detailed determination of the extent of the deficiency;

2) a survey to locate documented engineering and process safety information available to "fill in the gaps" of undocumented information;

3) compilation of all undocumented design and engineering assumptions, bases and requirements;

4) engineering analysis and physical examinations and inspections to compare the physical and electronic "as-built" platform and its equipment to the documented engineering requirements;

5) correction of discrepancies;

6) preparation of "As-built" documentation based on all of the above.

Given BP's long history of Federal and state criminal, regulatory, and civil violations of safety and environment requirements, and its repeated broken promises to remedy its conduct, a strong monitoring and audit process assuring full compliance is critically important. Production should

not be resumed until this process is successfully completed, including the full and detailed audit to assure compliance.

Summary

In summary, evaluation of subsea database records made available reveal that drawings, reports, and tests critical to operational and environmental safety were incomplete or unapproved well after Atlantis began production. It is inconceivable that BP could justify the risk of commissioning Atlantis production when the dangers of operating without completed design documentation reflecting the latest approved design version are well known. This is in violation of 30 CFR Part 250 and recognized good process safety engineering practices. Continuation of these violations and disregard for process safety could bring about critical breaches resulting in a life-threatening incident and/or significant, large scale environmental damage in the GOM. There is no justifiable reason for this indifference to Federal law and recognized process safety practices. Atlantis production should be shut in until resolution of the design discrepancies is complete and a thorough MMS inspection confirms that critical safety and environmental breaches have been satisfactorily resolved.

Michael E. Sawyer, P.E., CSP

[1] Atlantis: Penwell Publishing; www.bp.com/us

ATTACHMENT 1

CURRICULUM VITA

SAWYER, Michael Edward 2009

ASC, Incorporated (Apex Safety Consultants)
1301 Regents Park Drive
Suite 101
Houston, Texas 77058
281.488.1507 email: mike@apexsafety.com
281.488.1506 fax web site: www.apexsafety.com

PROFESSIONAL EXPERIENCE

Industrial Safety Engineering
Process Safety Engineering
Litigation Support (Expert Witness)
Risk Assessment and Management
Loss Control/Loss Prevention Engineering for General Industry
System Safety/Product Safety Engineering

EDUCATION

Bachelor of Science, Safety Engineering, Texas A&M University, 1983
Associate in Applied Science, Fire Science, Wilson Technical College, 1978
Associate in Arts, Liberal Arts, College of the Albemarle, 1976

LICENSE and CERTIFICATION

Registered Professional Engineer, No. 36565, Massachusetts (SAFETY)
Registered Professional Engineer, No. 84526, Texas (FIRE PROTECTION)
Certified Safety Professional, No. 8891 (SYSTEM SAFETY ASPECTS)
Apex Safety Consultants, Incorporated, Registration No. F-000027, Texas

PROFESSIONAL MEMBERSHIPS

American Institute of Chemical Engineers, Senior Member (1993 - Present)
System Safety Society, Senior Member (1985 - 1992)

INDUSTRIAL APPOINTMENTS

Research Associate, MKO Process Safety Center (2006 - Present)
President, ASC, Inc. Houston, Texas (1994 - Present)
Deputy Division Manager, SAIC Houston, Texas (1992 – 1994)
Safety Group, Stone & Webster Engineering, Houston, Texas (1990 – 1992)
System Safety Engineer, General Dynamics, Fort Worth, Texas (1988 – 1990)
System Safety Engineer, Texas Instruments, Dallas, Texas (1984 –1988)
System Safety Engineer, FMC Corp., San Jose, California (1983 –1984)

COMMITTEE MEMBERSHIPS

Member, MKO Process Safety Center Steering Committee
Track Session Chair, MKO Process Safety Center Symposium 1999
Session Chair, AIChE Process Plant Safety Symposium 1996
Chairman, Tenth International System Safety Conference 1991
President, System Safety Society-North Texas Chapter 1988 -1990

SELECTED PUBLICATIONS, INVITED PAPERS & MANUSCRIPTS

OSHA 1910.119: PSM, Its Effect on Engineering Design Projects
A Comparison of Chemical Hazard Analysis Models
Screening Analysis Techniques, Risk Assessment & Risk Management
Safety Analysis of a Typical Shutdown System
Hazard Evaluation Procedures Handbook (peer reviewer)
Safe Equipment Location with Hazard Analysis
Consequence Analysis for CAAA Risk Management Plans
Risk Assessment as a Basis for Addressing Process Hazards
Application for Development of Worst Case Scenarios
Worst Case Scenario Development for Off-Site Consequences
Process Hazard Analysis Protocol
Environmental, Health & Safety: A Systemic Approach
The Next Generation Process Hazard Analysis Protocols
Safety & Environmental Management Program Certification
Loss Prevention in the Process Industries, 3rd Edition, Chapter 8

EXPERIENCE SUMMARY

Mike Sawyer has led and participated on various safety engineering projects over his 26 plus years of experience. These have ranged from general industrial safety applications to detailed analyses of process units and systems. His expertise includes applications relating to loss control/loss prevention, hazard analysis, risk assessments, and litigation support.

The greatest span of Mr. Sawyer's career has been in the area of process safety. He has facilitated numerous hazard and risk assessment studies of petrochemical producing facilities throughout the U.S. and the world. His international projects include studies in Japan, India, Venezuela, Chile, Argentina, Mexico, Saudi Arabia, Australia, Singapore, and Canada.

Mike has served on investigation teams as well as leading investigations of petrochemical, refining, and oil field servicing incidents in support of litigation. Some of the most notable investigations include ESSO's Longford Gas Plant incident in Australia and the 2005 BP Texas City Refinery explosion.

Mr. Sawyer has also conducted HAZID Studies for Shell offshore and facilitated detailed HAZOP Studies for Chevron's Tombua Landana platform, Shell Venezuela HUB Flow Station, and PEMEX's Akal-C Central Production Complex.

Exhibit H

PERRY & HAAS
ATTORNEYS AT LAW
2300 Frost Bank Plaza | P.O. Box 1500 | Corpus Christi, Texas 78403
Telephone (361) 880-7515 | Telecopier (361) 887-9507
www.perryhaas.com

May 27, 2009

Silvia Murphy, Attorney-Advisor
Division of Mineral Resources
Office of the Solicitor
U.S. Department of the Interior
1849 C Street, N.W.
Washington DC 20240

Via e-mail to Silvia.Murphy@sol.doi.gov

Re: Kenneth Abbott/BP Atlantis Threat to GOM Environment

Dear Ms. Murphy:

Thank you very much for taking the time to participate in our long telephone conversation on May 19, 2009. We very much appreciate the fact that Mr. Saucier, Mr. Domangue, Ms. Moser, and Mr. Herbst were available on the phone and participated as well.

The purpose of this letter is to restate in writing our concern that the BP Atlantis Project presently poses a threat of serious, immediate, potentially irreparable and catastrophic harm to the waters of the Gulf of Mexico and its marine environment, and to summarize how BP's conduct has violated federal law and regulations.

Threat to the Gulf of Mexico Environment

We are at the beginning of hurricane season in the Gulf of Mexico. A major hurricane may very well require a shutdown and restart of Project Atlantis. Shutdowns and startups are well understood in the industry as the most potentially dangerous portions of operations and require access to critical documents which, for BP Atlantis, do not exist. This requires urgent action to prevent a catastrophe.

We have provided MMS with detailed documentation that BP does not have and does not maintain "as-built" drawings for critical subsea equipment; its primary engineering contractor does not have such documents. Critical documents which are necessary for the safe operation and maintenance of the Project, but which do not exist, include "as built" documents for piping and instrument diagrams ("P&IDs") and safety

shutdown systems logic ("SSS logic") diagrams. P&IDs which accurately detail the piping and instrument systems for the project and are vital to both shutdown and start up. "As-built" P&IDs do not exist except for isolated documents. Likewise, earlier stage, "approved for design" P&IDs do not exist except for isolated documents. Eighty-five percent of subsea P&IDs have no engineering approval of any kind. BP document management has refused to provide BP operations with P&IDs because they are incomplete and their accuracy is unknown. Without completed P&IDs, shutdown and start up operation procedures cannot be verified; hazard analyses (HAZOPs) required to assure safe equipment and procedures, cannot be performed reliably.

Safety shutdown systems, designed to automatically shut down critical operations if needed, are equally vital. Complex, computerized logic systems receive data inputs reflecting temperature, pressures, flow rates, valve settings and dozens of other parameters from hundreds of inputs throughout the project and, in emergencies, are to issue instantaneous electronic directives which can shut down systems, including wellheads located more than a mile below the surface of the sea. Many SSS logic diagrams are not in "as built" status but are listed as "needing up-date." Attempting to operate with SSS logic paths which are not finally approved "as-built," and which may be inaccurate, is an invitation to disaster.

Hurricane season is also likely to create maximum stress on thousands of welds, many of which must contain oil and gas under high pressures far beneath the surface of the sea. Yet, thousands of critical welds cannot have been properly inspected for compliance with welding specifications because the welding specifications were never finalized and because inspection requirements were never finalized. Over 95% of welding specifications have no final engineering approval. Inspection requirements likewise have no engineering approval.

From our conversation on the phone, we understand that MMS is already aware that undersea manifolds have been leaking and that major flow lines must already be replaced. Failure of this critical undersea equipment has potentially catastrophic environmental consequences. At the time of Hurricane Dennis, in 2005, Atlantis' sister platform, BP Thunder Horse, nearly sank due to an improperly installed check valve system. Weld failures on Thunder Horse manifolds were found requiring major equipment replacement. The same pattern of preventable failure is underway on BP Atlantis.

Internal BP documents characterize the situation as having the potential for "catastrophic operator errors," stating that "hundreds if not thousands" of documents are unavailable or incomplete. All of these items are of critical importance to the safe and proper functioning of a system which handles oil and gas flows thousands of feet beneath

the surface of the sea under extreme pressures and temperatures. BP Atlantis is currently the deepest moored floating production facility in the world. The extreme depth of Atlantis operations (greater than 7,000 ft.) poses exceptional challenges from engineering, construction, operational and maintenance standpoints. While design documentation shortcuts are unacceptable for any engineering project, the accuracy and detail of Atlantis subsea engineering and design is especially vital to safe operations and protection of the environment. Yet, BP management has rejected requests by its own employees to remedy the unsafe situation because of the estimated multi-million-dollar cost involved.

The threat to the marine environment of the Gulf of Mexico is immediately present; it threatens a catastrophic event which could dwarf the Exxon Valdez or Alaskan pipeline spill disasters. We urge MMS to act.

Violations of Statutes and MMS Regulations

The P&IDs and other documents which BP does not have are required by MMS regulations. 30 C.F.R. §§ 250 250.903 (a)(1) and 250.905(j) both directly require maintenance of "as built" documents for the life of the project. In addition, 30 C.F.R. §§ 250.800(b)(1) and 250.901(a)(10) both incorporate by reference API RP [American Petroleum Institute Recommended Practice] 14J "Recommended Practice for Design and Hazards Analysis for Offshore Production Facilities." That document outlines minimum necessary safety documentation, including P&IDs and logic diagrams, needed to perform the required hazard analysis and *which is to be maintained for the life of the project* (API RP 14J, Appendix A.2 [""REQUIRED INFORMATION" including P&IDs to "be maintained throughout the life of a facility . . ."]).

The suggestion made during the telephone conference that "as built" documentation is to be maintained only for the "platform" and not for the subsea portions of the project does not appear in the regulations. No language in the regulations so indicates. Each of the four sections cited and API RP 14J all explicitly deal with both surface and subsurface structures and appurtenances as well as those which traverse from one element to the other. None limit the obligation to maintain documents to "surface" or "platform." The failure to have and maintain "as built" P&IDs and other documents is not only highly dangerous; it is a clear violation of MMS regulations.

BP Atlantis is also in violation of regulations because major portions of the project do not have the required engineering certifications. As discussed above, 85% of the subsea P&IDs have no engineering approval of any kind, in direct violation of the

requirement that the structure be built to a "certified" engineering design, and that BP so certify. Sec. 250.905(j).

The total number and percentage of critical documents never receiving engineering approval is breathtaking, over 90% in many critical sectors.

Subsea Systems (DC-1 Only)

Sector No.	Total	IFD	IFC	As-Blt	Not App	% Not App
30 Subsea Systems (wellheads, manifolds, flowlines and risers)	1,266	27	86	101	1,052	**83%**
31 Wellheads	22	0	0	0	22	**100%**
32 Trees	570	1	9	1	559	**98%**
33 Manifolds	161	5	4	0	152	**94%**
34 Pipelines/Flowlines	2,383	1	108	0	2,274	**95%**
35 Controls	1,351	14	36	36	1,265	**94%**
36 Umbilical	454	2	201	56	195	**43%**
37 Risers	750	0	1	80	669	**89%**
38 Installation	219	0	14	0	205	**94%**
TOTALS	**7,176**	**50**	**459**	**274**	**6,393**	**89%**

Finally, BP is in violation of regulations for failure to comply with the API RP 14J, the recommended practice for hazard analysis. Compliance with this industry standard is both required and is an explicit pre-condition to start of production. 30 C.F.R. § 250.800. Subsection (a) prohibits commencement of production without MMS

approval of the production safety system for the project; subsection (b)(1) requires that the production safety system comply with API RP 14J.

The P&IDs which BP does not have are part of the "minimum" safety and environmental information which must be "developed and maintained for all facilities" and provide "the basis for hazards analysis, developing operating procedures, for training personnel and for implementing" other elements of the safety and environment programs. (API RP 14J, p. 31). They are necessary to perform the API RP 14J hazard analysis which is required to begin production. API RP 14J, Appendix A.2 ["REQUIRED INFORMATION" includes "process flow diagrams and P&IDs"].

API RP 14J explains that P&IDs provide the definition of the system which is the basis of the hazards analysis:

> "Detailed P&IDs should show equipment and interconnecting lines, including relief, vent and drain systems. These drawings should include all control valves and controllers, manual valves, check valves, pressure relief valves and safety shutdown sensors. Set points of pressure relief valves and maximum allowable pressure ratings of piping systems should also be shown. Utility systems, line numbers, valve types and individual instrument tag numbers should be indicated." (Sec. 6.4.3).

14J explains that the formal hazard analysis is done during the detailed design phase of the project (7.3(3)), "after P&IDs are complete." HAZOP "requirements include a complete set of process flow diagrams, P&IDs, ..." (API RP 14J, p. 39 and Appendix A.2).

P&IDs are required again during the "PRE-START-UP REVIEW" to assure that piping is routed and valved according to the P&IDs." (API RP 14J 6.5)

Thus, P&IDs and hazards analysis are not only regulatory requirements, they are two of the critical foundations for eliminating potential hazards from the project design, and for maintaining safe operations after start-up. Without these documents and the engineering precautions they represent, BP Atlantis is a catastrophe in waiting.

BP's Criminal Record

BP's long record of criminal as well as civil violations heightens concern that excessive cost-cutting will result in catastrophe. BP's record includes (but is not limited to) these violations:

• BP's environmental crimes resulted in 15 deaths and hundreds of injuries in the Texas City Refinery explosion of 2005, for which BP had paid a $50 million fine as part of a federal felony plea. Both before and after this massive explosion, safety-related violations have averaged one death per year (in addition to the 15 in March, 2005) in this refinery for nearly 10 years.

• BP's criminal negligence in Alaska resulted in the largest oil spill ever on the North Slope from BP's corroded, unmaintained pipelines across the frozen tundra, leading to a $20 million criminal fine. This was one of two major BP spills in 2006, following a $1.4 million fine for safety violations in 2005, and other fines for safety violations and violations of leak detection standards in 2002 and 2003. Three years earlier, in 2000, it had paid $15 million for dumping hazardous materials onto the Alaska North Slope and promised never to do it again.

• This year BP entered a consent decree for almost $175 million resulting from its violations of an earlier Clean Air Act consent decree in 1991.

• In 2007, BP agreed to pay over $300 million in fines and penalties from its manipulation of the propane market.

• Also in 2007, BP was fined for leaking underground storage tanks in Michigan.

• In 2000, BP paid a fine for unlawfully polluting the Allan River in Scotland.

• Also, in 2000, BP paid $32 million under the False Claims Act for underpayment of royalties on federal and Indian leases.

DOI and MMS Have Duty and Authority to Act

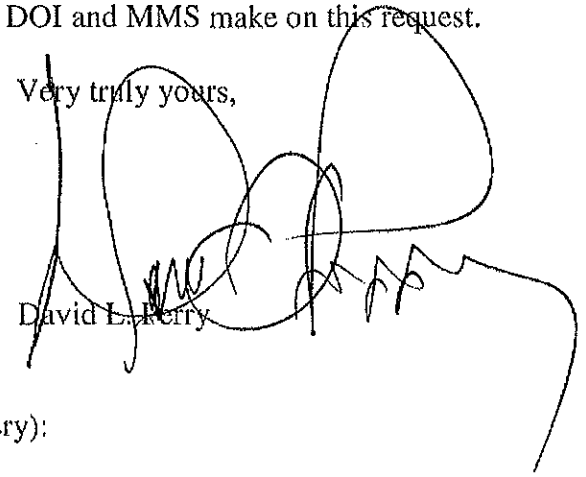
The Submerged Lands Act specifically provides:

for the suspension . . . of any operation . . . **, including production**, . . . if there is a threat of serious, irreparable, or immediate harm or damage to life (including fish and other aquatic life), . . . or to the marine, coastal, or human environment"

Such a threat exists as the result of BP's conduct. The only way to protect the Gulf of Mexico marine environment from this potential for catastrophe is to halt production through this platform until the massive safety failures related to Project Atlantis are rectified.

On behalf of our client, Mr. Kenneth Abbott, we request that DOI and MMS take immediate action to halt production and protect the marine environment. We also request that we be notified of whatever decision DOI and MMS make on this request.

Very truly yours,



David L. Berry

DLP:sbd
cc (via Federal Express overnight delivery):
The Honorable Ken Salazar
Secretary of the Interior
U.S. Department of the Interior
1849 C Street, N.W.
Washington DC 20240

ATTACHMENT G

IN THE UNITED STATES DISTRICT COURT FOR THE SOUTHERN DISTRICT OF TEXAS HOUSTON DIVISION

UNITED STATES OF AMERICA EX REL. KENNETH W. ABBOTT; KENNETH W. ABBOTT, INDIVIDUALLY; AND FOOD & WATER WATCH, INC.;	§	
Plaintiffs,	§	Civil Action No. 4:09-cv-01193
vs.	§	Jury Trial Requested
BP P.L.C.; BP AMERICA, INC.; BP EXPLORATION AND PRODUCTION, INC.; AND BP PRODUCTS NORTH AMERICA INC.;	§	
Defendants.	§	

DECLARATION OF DONNA M. BOLAND

I, Donna M. Boland, declare as follows:

1. I am a current, dues-paying member of Food & Water Watch. I became a member because I share Food & Water Watch's goals, particularly ensuring safe and sustainable seafood for consumers, protecting the environment and the long-term well-being of coastal and fishing communities, and ensuring the accessibility and viability of the ocean and its resources.

2. I am a 55-year-old widow and am the sole source of my income.

3. I currently own property adjacent to the Coast of the Gulf of Mexico ("Coast") located at 121 East Atol, South Padre Island, Texas 78597. I have owned this property for the past fifteen years, and this property provides substantial rental income. In 2010, this property will provide approximately $10,200 in rental income.

4. I own additional property located approximately 70 miles from the Coast at 2414 Oblate Avenue, Mission, Texas 78574. I have owned this property for the past eighteen years, and this property served as my primary residence until three years ago. For the past three years, I have resided in San Rafael, California for occupational purposes. In the foreseeable future, I intend to return to Texas and utilize as my primary residence either my property in South Padre Island, Texas or my property in Mission, Texas.

5. Because of the close proximity of my South Padre Island property to the Coast, I have an economic interest in the environmental wellbeing of the Gulf of Mexico. The value of my South Padre Island property and my ability to rent this property are directly related to good water quality, pollution-free beaches, and ample outdoor and beach-related recreational activities.

6. A spill from the BP Atlantis Facility will economically and personally harm me. A spill from this Facility would negatively affect the income that I derive from the property and my future plans to utilize the property.

7. I have previously experienced the effects of an oil spill, and understand the detrimental impacts created by the presence of oil on shorefront property. I was present for the 1979 Ixtoc I oil spill, and recall the existence of oil residue on beaches after subsequent storms or strong winds. The presence of oil reduced the aesthetic qualities of the shorefront, and although I owned no shorefront properties at that time, I believe the economic viability of such properties was likely reduced.

8. Upon information and belief, the oil from the Deepwater Horizon spill covered more than an estimated 46,000 to 68,000 square miles. Oil is still in the water, and a hurricane would likely exacerbate the spread of the oil.

9. Upon information and belief, I understand that a spill from the BP Atlantis Facility could be many times larger than the Deepwater Horizon incident. A spill at the BP Atlantis Facility that causes oil to appear on the South Padre Island shorefront would severely impair the

aesthetic qualities associated with my South Padre Island property and consequently reduce the rental value of my property. An oil spill from the BP Atlantis Facility could force me to sell my South Padre Island property at a loss as I do not want to live where there is no desirable beach habitat.

10. A large spill will harm my personal recreational interests in the Gulf of Mexico. I enjoy sunbathing, swimming, boating, bird watching, fishing, diving, snorkeling, and shell hunting and plan to continue such activities in the future at my South Padre Island property.

11. A larger oil spill from the BP Atlantis Facility, which is approximately the same distance from South Padre Island as the Ixtoc I spill, will disrupt my recreational activities as it will cause me to not want to get in the water, eat food from the ocean, or walk on beach. It will permanently disrupt the water quality of the Gulf of Mexico, killing off fish, shrimp, and rare animals like sea turtles and brown pelicans, which I enjoy seeing and watching. It will kill the sea grasses in the bay, wiping out fisheries. It will dirty the beaches for years, making them unsuitable for me to use them for sunbathing and walking and will prevent me from doing any shell hunting.

12. I also derive substantial enjoyment from consuming seafood from the Gulf of Mexico. I seek out and buy seafood from the Gulf of Mexico, namely shrimp and oysters, red snapper, and red fish. My ability to consume seafood was hampered due to the Deepwater Horizon oil spill as I could not buy it because I believe it now to be tainted. A larger oil spill from the BP Atlantis Facility will likely cause me to permanently avoid eating seafood from the Gulf of Mexico.

13. I treasure the Gulf of Mexico and its ecosystem because of its beauty and the enjoyment I derive from it. I consider it my home, even though I currently work in California, and I long to return as soon as it becomes economically feasible for me to do so. I truly value the variety of vegetation, wildlife, and the temperature of the water. I have lived on the Coast for a good piece of my lifetime. When I was first married, I lived in Gautier, Mississippi, which has now been threatened by the Deepwater Horizon oil spill. My backyard was a bayou where I watched a fish eagle catch its breakfast every morning. I would make trips to Dauphin Island, Alabama, which is now currently polluted with oil. The thought that I may not be able to enjoy these fruits at my home in South Padre causes me great distress.

14. Because BP has failed to comply with the environmental laws and regulations that apply to its Atlantis Facility, my personal and economic livelihood is at risk. The BP Atlantis Facility has operated without meeting the requirements imposed by law to prevent accidents, and protect the marine environment and resources in the Gulf of Mexico, all of which I depend on for survival. If BP were to comply with its full legal responsibilities and comply with all applicable safety and environmental regulations, this would provide me with some measure of protection for the marine environment, the wildlife and resources of the Gulf of Mexico, and thus for me and my business.

15. For all the reasons set forth in this document, BP's failure to comply the law directly harms my interests in the health and quality of the Gulf of Mexico.

Pursuant to the provisions of 28 U.S.C. § 1746, I declare under penalty of perjury that the foregoing is true and correct.

Executed this 6 day of October, 2010.

Donna M. Boland

Donna M. Boland

ATTACHMENT H

IN THE UNITED STATES DISTRICT COURT FOR THE SOUTHERN DISTRICT OF TEXAS HOUSTON DIVISION

UNITED STATES OF AMERICA EX REL. KENNETH W. ABBOTT; KENNETH W. ABBOTT, INDIVIDUALLY; AND FOOD & WATER WATCH, INC.;	§	
Plaintiffs,	§	Civil Action No. 4:09-cv-01193
vs.	§	Jury Trial Requested
BP P.L.C.; BP AMERICA, INC.; BP EXPLORATION AND PRODUCTION, INC.; AND BP PRODUCTS NORTH AMERICA INC.;	§	
Defendants.	§	

DECLARATION OF ALLEN J. ESTAY

I, Allen J. Estay, declare as follows:

1. I am a current, dues-paying member of Food & Water Watch. I became a member because I share Food & Water Watch's goals, particularly ensuring safe and sustainable seafood for consumers, protecting the environment and the long-term well-being of coastal and fishing communities, and ensuring the accessibility and viability of the ocean and its resources.

2. I currently reside at 7153 Grand Caillou Road, P.O. Box 118, Dulac, Louisiana, 70353. Dulac, in Terrebonne Parrish, is adjacent to the

FWW0022048

water in the bayou, and located approximately 25 miles from the Gulf of Mexico.

1. I have lived in Dulac for the past thirty-three years, and I currently live there with my wife. Approximately seventy-five percent (75%) of my household's income comes from my business.

2. I have an economic interest in the environmental wellbeing of the Gulf of Mexico. I am the owner and operator of the Bluewater Shrimp Company, which purchases and processes shrimp caught by commercial fishermen in the Gulf of Mexico. In the past, the business has generated approximately $4.5 million in annual revenue.

3. The Deepwater Horizon oil spill in the Gulf of Mexico has significantly harmed my business. My business requires volume in order to succeed. I believe that the oil spill has hurt volume. Last year, fewer fishing vessels were bringing in shrimp, and I believe that many were working for BP in the clean-up effort. This year, the amount of shrimp being brought into the company has also been far less than in the past. We normally process and sell an average of 3-3.5 million pounds of shrimp per year. In the last year, this dropped by than a third, to approximately 2

million pounds. Indeed, because of the spill, I have received $300,000 in assistance from BP.

4. Upon information and belief, I understand that a spill from the BP Atlantis facility could be many times larger than the spill from the Deepwater Horizon Facility.

5. A larger spill, such as from the BP Atlantis, would harm me economically and personally. Such a spill would negatively affect my ability to earn a living through my business, as it would limit the amount of shrimp that my company could buy and sell. As an owner and operator whose salary comes solely from my business, a reduction in sales would also reduce my personal finances.

6. A larger oil spill would also harm my ability to recreate in the Gulf. While I have not done so recently due to a knee replacement, I have boated, waterfowl hunted, fished, and swum in the Gulf of Mexico for practically my entire life. In the next five years I plan on swimming and fishing again in the Gulf, on a monthly basis, as soon as my knee will allow it. I plan to go close to my house and in the Gulf waters off of Alabama and Mississippi. A larger oil spill than from the Deepwater Horizon could upset these plans, as it would harm water quality for swimming and

fishing and upset the delicate ecosystem, reducing the numbers of many birds and other wildlife that I enjoy observing and hunting in the Gulf of Mexico and bayou.

7. A larger, uncontained spill from the Atlantis facility will cause similar or greater harms to my livelihood and aesthetic and recreational interests than the Deepwater Horizon spill did.

8. Because I believe that BP has failed to comply with the environmental laws and regulations that apply to its Atlantis facility, my personal and economic livelihood is at risk. Upon information and belief, the BP Atlantis facility has operated without meeting the requirements imposed by law to prevent accidents, and protect the marine environment and resources in the Gulf of Mexico, all of which I depend on for survival. If BP were to comply with its full legal responsibilities and comply with all applicable safety and environmental regulations, this would provide me with some measure of protection for the marine environment, the wildlife and resources of the Gulf of Mexico, and thus for me and my business.

9. For all the reasons set forth in this document, BP's failure to comply the law directly harms my interests in the health and quality of the Gulf of Mexico.

Pursuant to the provisions of 28 U.S.C. § 1746, I declare under penalty of perjury that the foregoing is true and correct.

Executed this 21 day of November 2011.

Allen J. Estay

FWW0022052

ATTACHMENT I

IN THE UNITED STATES DISTRICT COURT FOR THE SOUTHERN DISTRICT OF TEXAS HOUSTON DIVISION

UNITED STATES OF AMERICA EX REL. KENNETH W. ABBOTT; KENNETH W. ABBOTT, INDIVIDUALLY AND FOOD & WATER WATCH, INC.;	§	
Plaintiffs,	§	Civil Action No. 4:09-cv-01193
vs.	§	Jury Trial Requested
BP P.L.C.; BP AMERICA, INC.; BP EXPLORATION AND PRODUCTION, INC.; AND BP PRODUCTS NORTH AMERICA INC.;	§	
Defendants.	§	

DECLARATION OF NANCY A. JAMES

I, Nancy Ann James, declare as follows:

1. I am a current, dues-paying member of Food & Water Watch. I have been a member since October 2009. I became a member because I share Food & Water Watch's goals, particularly ensuring safe and sustainable sea life, including seafood for consumers, protecting the environment and the long-term well-being of coastal and fishing communities, and ensuring the accessibility and viability of the ocean and its resources.

2. I am a 78-year-old single woman (widow) and am the sole source of my income.

3. I currently live across the street from the coast of the Gulf of Mexico ("Coast"), separated only by about 500 yards from a bluff overlooking the Gulf. My address is 14 Cypress Rd.-#184, Santa Rosa Beach, FL 32459; it is in a townhouse development called Cassine Garden. I live in Walton County, one of Florida's largest in size, which stretches from the Gulf to the Alabama border. I have lived here for the past 20 years. I moved here from Minnesota for retirement because it was beautiful, affordable, and approximately a 5-minute walk to the shore.

4. Because of the close proximity of my townhouse property to the Coast, I have an economic interest in the environmental wellbeing of the Gulf of Mexico. I believe that the value of the property, which I co-own with my late partner's son, and the value of all homes in the neighborhood are directly related to good water quality, pollution-free beaches, and nearby beach-related recreational activities.

5. I derive substantial recreational enjoyment from the Gulf of Mexico. I walk on the beach more than twice a month unless it's too cold or too hot, most recently in October 2011. I also enjoy sunbathing and swimming a few times per year and boating every few years. Most recently, I went swimming this summer in a state park 100 miles to the east of Santa Rosa Beach. I also occasionally go bird watching, and I participate in an annual beach cleanup – the last cleanup I went to was in July 2011. I plan to continue all of these activities in the next five years either near my home or in state parks that are as close as a mile away.

6. The oil spill from the BP Horizon facility harmed these recreational activities. I saw small lumps of oil on the beach where I usually recreate. I also saw people whom I believe to be BP officials and others doing what I believe to be cleanup throughout the summer. It kept me from going to the beach near my home in 2010 except for a July beach cleanup. It forced me to go swimming this summer in an area farther away that I believed was less contaminated with oil. It also

caused me anxiety because I worried about the tourists -- especially children -- who swam and played in Gulf waters. Even now, I have heard that oil is being found underneath the sand, so I am concerned that beaches still are not safe. I also worry about what the long-term effects of the spill will be on all the wildlife that lives in and around the Gulf waters and that I enjoy seeing while I recreate.

7. I also believe that the BP Horizon spill lowered the value of my townhouse. I base this on my perception that this is a resort and vacation area, and in 2010 tourism was way down, which affected many local businesses tremendously. I believe that a number were forced to close.

8. A spill from the BP Atlantis Facility will economically and personally harm me. I have been given information, and I believe, that a spill from the BP Atlantis Facility could be many times larger than the Deepwater Horizon incident.

9. I believe that this could make the conditions we endured during the Horizon oil spill even worse, further harming the value of my

caused me anxiety because I worried about the tourists -- especially children -- who swam and played in Gulf waters. Even now, I have heard that oil is being found underneath the sand, so I am concerned that beaches still are not safe. I also worry about what the long-term effects of the spill will be on all the wildlife that lives in and around the Gulf waters and that I enjoy seeing while I recreate.

7. I also believe that the BP Horizon spill lowered the value of my townhouse. I base this on my perception that this is a resort and vacation area, and in 2010 tourism was way down, which affected many local businesses tremendously. I believe that a number were forced to close.

8. A spill from the BP Atlantis Facility will economically and personally harm me. I have been given information, and I believe, that a spill from the BP Atlantis Facility could be many times larger than the Deepwater Horizon incident.

9. I believe that this could make the conditions we endured during the Horizon oil spill even worse, further harming the value of my

property and limiting my plans to continue my sunbathing, swimming, boating, and bird watching. I worry that it will permanently harm many creatures that are vital to the Gulf of Mexico ecosystem, which I enjoy seeing and watching. It will also spoil the beaches for years, so I will not be able to use them for sunbathing and walking.

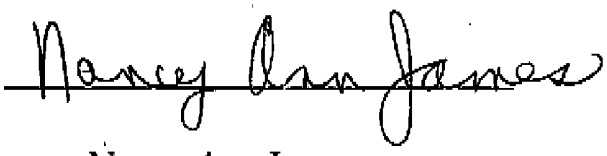
10. I treasure the Gulf of Mexico and its ecosystem because of its beauty and the enjoyment I and others derive from it.

11. Because BP has failed to comply with the environmental laws and regulations that apply to its Atlantis Facility, my personal and economic livelihood is at risk. I have read information, and I believe, the BP Atlantis Facility has operated without meeting the requirements imposed by law to prevent accidents, and protect the marine environment and resources in the Gulf of Mexico. If BP were to comply with its full legal responsibilities and with all applicable safety and environmental regulations, this would provide me with some measure of protection for the marine environment, the wildlife and resources of the Gulf of Mexico.

12. For all the reasons set forth in this document, BP's failure to comply with the law directly harms my interests in the health and quality of the Gulf of Mexico.

Pursuant to the provisions of 28 U.S.C. § 1746, I declare under penalty of perjury that the foregoing is true and correct.

Executed this 21st day of November, 2011.



Nancy Ann James

ATTACHMENT J

IN THE UNITED STATES DISTRICT COURT FOR THE SOUTHERN DISTRICT OF TEXAS HOUSTON DIVISION

UNITED STATES OF AMERICA EX REL. KENNETH W. ABBOTT; KENNETH W. ABBOTT, INDIVIDUALLY; AND FOOD & WATER WATCH, INC.;	§	
Plaintiffs,	§	Civil Action No. 4:09-cv-01193
vs.	§	Jury Trial Requested
BP P.L.C.; BP AMERICA, INC.; BP EXPLORATION AND PRODUCTION, INC.; AND BP PRODUCTS NORTH AMERICA INC.;	§	
Defendants.	§	

DECLARATION OF LANE BROOKS

I, Lane Brooks, declare as follows:

1. I am the current Chief Operating Officer for Food & Water Watch, Inc. ("FWW").

2. In this capacity I manage the day-to-day operations of the organization, including working with the directors of the various programs, and directly overseeing our financial, human resources, Internet technology, and development departments.

3. FWW began working on the issues surrounding BP Atlantis, and ultimately filed suit against BP, because of the grave concern on the part of leaders of the organization that the Atlantis Facility poses a serious risk of a disastrous oil spill in the Gulf of Mexico. Further, the

organization's leaders were concerned such a spill could cause serious harm to the marine environment, as well as people, including fishermen and women who depend on the health of the Gulf, as well as consumers who enjoy eating seafood from the Gulf.

4. Therefore, FWW dedicated extensive resources to this issue including bringing it to the attention of the Minerals Management Service, Congress, and the public to prevent what appeared to be a potential catastrophe. Ultimately, FWW's leaders decided that the organization should file a lawsuit seeking an injunction requiring BP to cease all production from BP Atlantis unless and until BP comes into compliance with all applicable environmental and safety regulations.

4. FWW's work on the BP Atlantis and the filing of the above-captioned lawsuit is germane to FWW's organizational mission. FWW is a national, non-profit, public interest consumer advocacy organization with its headquarters in Washington, D.C. One of the organization's primary purposes is to educate the public regarding food systems that guarantee safe, wholesome food produced in a humane, sustainable manner that simultaneously protect public water. Part and parcel to this mission is educating consumers about the safety of seafood and seafood production, when there are threats to the safety or sustainability of the seafood or public waters, and safe sustainable alternatives. In turn, FWW advocates

on behalf of the public for policies promoting environmental protection and the long-term well being of coastal and fishing communities so that there are more alternatives for consumers. FWW is very concerned that an oil spill that is from a facility such as the BP Atlantis will harm the marine environment and threaten the safety of seafood, just as the BP Horizon oil spill did. Were such a spill to happen, FWW believes that consumers would have fewer sustainable options for seafood. Moreover, as consumers become more wary of seafood from the Gulf of Mexico, consumers would become more reliant on imported or farmed fish, which would undermine FWW's central mission to inform the public about the dangers posed by industrial aquaculture, or fish farming, mainly from overseas.

5. FWW also seeks to protect the environment by preventing the shift of control of water resources from the public to private companies, including hydraulic fracturing to remove natural gas from under the ground ("fracking"), which not only threatens drinking water but stands to benefit private, investor-owned water companies. As part of this, FWW advocates against policies that contribute to this shift. For example, FWW advocates against the lax regulation of private leases for minerals like the one secured by BP for its Atlantis Facility, which, if it results in an accident

can threaten the health and safety of seafood and the quality of the marine environment.

6. Not only are the issues related to FWW's work on the Atlantis facility germane to its central mission, FWW filed suit in this case to further this mission, as the injunctive relief requested would ensure environmental protection to marine waters that are a significant source of seafood while educating the public about the threat to this system posed by BP Atlantis.

7. While FWW's corporate filing status might not be harmed by an oil spill from the Atlantis, FWW's interests have been harmed by the situation with this facility. FWW has spent tens of thousands of dollars and months of staff time on our efforts to educate the public, members of Congress, and MMS and Bureau of Ocean Resource Management and Enforcement regulators about the situation with Atlantis. The organization hired a staff person specifically dedicated to the issue for more than a year. We have also spent money developing a website dedicated to the issue and created of factsheets and other materials about it. We have submitted numerous comment letters to regulators and Congress on it as well.

8. The prospects of an oil spill at Atlantis would further harm the organization's interests, as demonstrated by the harms resulting from the oil spill at BP's Deepwater Horizon facility. Not only has the quality of

seafood from the Gulf of Mexico been called into question, forcing us to inform consumers to be wary of Gulf seafood due to oil and dispersant contamination, which we did with the attached briefing paper "A Year After the Spill" and in our annual "Smart Seafood Guide," FWW has had to work harder to inform consumers about the danger of imported and farmed seafood. This is exemplified in our attached July 2010 factsheet warning people of the dangers of imported and farmed seafood. Additionally, in part because of that oil spill, the federal government has promoted a new FWW-opposed plan to increase fish farming in the Gulf of Mexico's federal waters claiming that it will enhance rebuilding efforts (see the attached newspaper article). In part because of the oil spill, FWW will need to spend additional resources to educate the public and decision makers about the dangers of this plan, not only because it will involve unsustainable aquaculture, but because it will be in waters polluted with oil and dispersants. Finally, FWW's interests in stopping fracking have been harmed by the Deepwater Horizon oil spill, since immediately after the spill, proponents called for increased natural gas production as a more environmentally sustainable alternative for energy than oil (see attached article in *Time Magazine*). The oil spill has made it more difficult to educate consumers about the dangers of securing natural gas through fracking.

12. Another oil spill similar to the one at the BP Horizon at the BP Atlantis would further harm FWW's interests in informing consumers about safe and sustainable seafood options, advocating against policies to promote imported seafood and fish farming in the Gulf of Mexico and elsewhere, and policies to promote natural gas development through fracking.

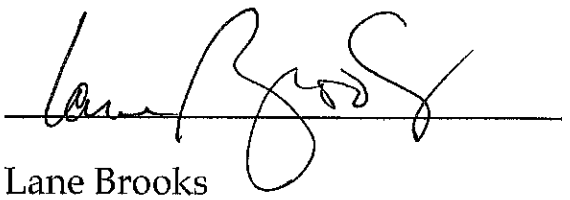
13. In sum, FWW's work on Atlantis is germane to its central mission. Because BP has failed to comply with the environmental laws and regulations that apply to its Atlantis Facility, FWW has increased the resources that the organization spent on informing the public, members of Congress, and regulators about the problems at the facility. The threat of another oil spill at Atlantis Facility injures FWW's interests because it would force the organization to spend more of its resources on educating consumers about the unsafe nature of Gulf seafood, and its work to prevent fish farming, imported seafood, and the country's reliance of natural gas obtained through fracking.

14. If BP were to comply with its full legal responsibilities and comply with all applicable safety and environmental regulations, this would provide FWW with some measure of protection for the marine environment and seafood in obtained from the Gulf of Mexico.

15. For all the reasons set forth in this document, BP's failure to comply the law directly and indirectly harms FWW's interests in the health and quality of the Gulf of Mexico.

Pursuant to the provisions of 28 U.S.C. § 1746, I declare under penalty of perjury that the foregoing is true and correct.

Executed this 16 day of December 2011.



Lane Brooks

Did You Know?

Not all seafood is created equal. Much of the fish available today in the United States is imported, frequently from places where health, safety and environmental standards for growing or catching fish are weak or non-existent. Less than 2 percent of seafood imports to the U.S. are inspected for contamination. Also, many popular wild fish have been managed poorly and are depleted, are caught using gear that can hurt habitat and other wildlife, and/or contain substances like mercury or PCBs that can cause serious health problems.

Fortunately, there are still good domestic seafood options. This card provides safer and more sustainable alternatives to many popular fish nationwide. For additional local alternatives in specific regions see:

www.foodandwaterwatch.org/fish

Tip: Try a variety of seafood to reduce exposure to contaminants and lower pressure on over-popular seafood choices.

food&waterwatch

Questions to Ask About Your Seafood

- **Where is it from?** Choose domestic over imported.
- **Is it caught or farmed locally?** Choose local foods over those shipped from far away.
- **Is it farmed or wild?** Choose wild, unless otherwise stated on this card.
- **How is it caught?** Ask if the method has high bycatch or habitat damage — favor fish caught by hook and line, handline, troll, jig and speargun.
- **How is it farmed?** Choose seafood that has been farmed in the United States, especially in low- or no-output, recirculating systems. Tilapia, shrimp, sea bream and cobia are examples of fish that are or are soon to be farmed this way in the United States.
- **Is it associated with any contaminants?** Avoid mercury, PCBs and antibiotics.
- **Is it invasive?** Invasive species have been introduced into a non-native environment. Once established, they can harm local ecosystems and can be hard to eradicate. Eating them may help to control their populations. Invasive species are not yet commonly available in most areas. Asking for them will encourage suppliers to seek them out.

Our Dirty Dozen

Here's a quick guide to our "dirty dozen" of common seafood choices nationwide that we give a big thumbs down.

1. **Atlantic cod**
2. **Atlantic flatfish**, e.g. Atlantic halibut, flounders and sole
3. **Caviar**, especially from beluga and other wild-caught sturgeon
4. **Chilean seabass**
5. **Eel**
6. **Farmed salmon**, often called "Atlantic salmon." (Tip: don't be fooled by "organic" salmon — it's usually farmed internationally and not certified by U.S. standards!)
7. **Imported Basa/Swai/Tra** (Tip: these are often called "catfish" — ask where it is from and check country of origin labels.)
8. **Imported farmed shrimp**
9. **Imported king crab**
10. **Orange roughy**
11. **Sharks**
12. **Tunas**, especially **Atlantic bluefin** (Pacific albacore and Atlantic skipjack are exempted.)

www.foodandwaterwatch.org

Smart Seafood Guide

2011

food&waterwatch

2011 National Seafood Substitution Recommendations from Food & Water Watch

Case 4:09-cv-01198 Document 353 Filed in TXSD on 04/04/12 Page 10 of 24

How to use this card: Look for the type of seafood you like and find safer, more sustainable recommendations below. The better choice may be a more specific type of fish, or sometimes we suggest a substitution.

Fillet fish

Mild, white fish

If you like: catfish, Chilean seabass, flounder, halibut, orange roughy, pollock, sole

Try: hook-and-line-caught haddock, Pacific halibut, mahi-mahi*, U.S.-farmed catfish, U.S.-farmed tilapia, yellowtail snapper, Pacific sole, Asian carp, lionfish**, U.S. wild-caught tilapia****

Thicker, more flavorful fish

If you like: groupers, jacks, mackerel, salmon, snappers, tuna, wahoo

Try: Alaskan salmons*, Atlantic mackerel, Atlantic skipjack tuna*, black cod (sablefish), mangrove/gray snapper, Pacific albacore tuna*, Pacific cod (not trawl-caught), pompano, U.S.-farmed barramundi, wreckfish

Steak-like fish

If you like: bonito, salmon, sharks, swordfish, tunas

Try: Alaskan salmons*, Atlantic mackerel, mahi-mahi*, Pacific albacore tuna*, Pacific halibut

***Choose pole- or troll-caught fish** ****Invasive (See reverse for more information.)**

These recommendations are intended as a general reference. They are not intended to provide specific medical advice, supplant any government warnings or otherwise prevent exposure to any health hazards associated with seafood. People should always follow proper acquisition, handling and cooking procedures of any seafood they prepare or consume. The devastating April 2010 oil spill in the Gulf of Mexico is likely to impact availability of some seafood items on this card. For more information, see the latest government updates at http://bit.ly/gulfseafood and http://bit.ly/gulfNOAA

Shellfish and more

If you like: abalone, clams, conch, escargot, oysters, mussels

Try: U.S.-farmed abalone, U.S.-farmed escargot, U.S.-farmed mussels, U.S.-farmed oysters, U.S. wild-caught or farmed crawfish, U.S. wild hand-raked or farmed clams.

If you like: calamari and octopus

Try: Atlantic trap- or net-caught squid, "California" (U.S. Pacific Market) squid

If you like: crab and lobster

Try: U.S. wild-caught crabs including Alaskan king, dungeness, golden, rock ("peekeytoe") and stone, "Maine" lobster (American), European green crab, rusty crawfish**, Asian shore crab****

If you like: scallops

Try: U.S. diver-caught scallops

If you like: shrimp

Try: U.S. wild-caught shrimp, especially South Atlantic white, Pacific ("Oregon") pinks, Florida ("Key West" or "Tortugas") pinks and Maine pink shrimp; U.S.-farmed shrimp

If you like: small, very flavorful fish (like sardines and anchovies)

Try: U.S. wild-caught anchovies, U.S. wild-caught sardines

food&water watch

FISH

U.S. Seafood and the BP Gulf Disaster

Fact Sheet • July 2010

The massive oil spill resulting from the blowout of BP's Deepwater Horizon has been devastating not only to the marine, coastal and wetland habitats of the Gulf of Mexico, but also to one of the United States' most productive fishing communities. As of July 2010, just over a third of federal waters in the Gulf have been closed to fishing, more than half of Louisiana state waters are closed, and access to shrimping areas is extremely limited. With decreasing amounts of seafood coming from the Gulf for an indefinite period of time, this disaster could have a large impact on the U.S. seafood supply.

Fishing and Seafood in the Gulf

The states bordering the Gulf of Mexico — Texas, Louisiana, Mississippi, Alabama and Florida — together produce around 1.3 billion pounds, or $700 million worth, of seafood each year.[1] The Gulf is a particularly prolific source of shrimp and oysters — 73 percent of the country's shrimp catch and 60 percent of U.S. oyster landings are from the Gulf.[2]

Fishing is a major source of employment for people in the Gulf region. In 2002, the National Marine Fisheries Service counted over 12,000 fishing permits issued in the Gulf — and this excluded many shrimp permits, which are likely the most numerous, as well as permits for people fishing in state waters.[3] Gulf fishing communities have already been struggling through the impacts from Hurricane Katrina and competition from imported seafood. This disaster is yet another obstacle to their economic stability and long-term well-being.

Threat to Additional Regions

The National Oceanic and Atmospheric Administration (NOAA) modeled the long-term oil threat to Gulf and East Coast shorelines. Unfortunately, the model only assumed 90 days of oil flow into the Gulf (which we now know was much too modest of an estimate) and examined the threats 120 days out from the start of the spill — up to August 6, 2010. According to the model, the oil was more likely to move east than west, and most of the coast of Texas had a low probability of major impact. A well-known current called the "loop" could carry oil around the Florida panhandle, the Florida Keys, Miami and Fort Lauderdale, making these shorelines at greater risk than much of the east coast of Florida. The model also claimed there was a 1 to 20 percent chance that oil moving up the east coast of Florida could reach Georgia and South Carolina shores, with likelihood decreasing as the Gulf Stream moved away from the continental United States at Cape Hatteras.[4]

Unfortunately, this model focused exclusively on shorelines and did not examine potential damage to state and federal fishing grounds by oil moving around the panhandle of Florida and up the East Coast. In fact, the forecast that Texas was not at great risk was already being questioned when tar balls showed up on Texas shores on Monday, July 5, 2010.[5]

Why Imported or Factory Farmed Seafood Is Not a Good Alternative

Even before the oil spill, more than 80 percent of seafood consumed within the United States —and around 90 percent of shrimp — was imported. These troubling statistics are explained by a combination of inadequate imported seafood safety standards, a trend to export U.S.-produced seafood for higher dollars instead of keeping it here, and a growing appetite for seafood.

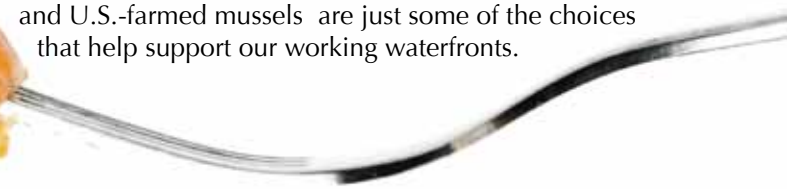
With just over a third of federal waters in the Gulf of Mexico closed to fishing,[6] the dependence on imported seafood seems to be growing. Unfortunately, these imports are associated with their own serious safety issues. Less than 2 percent of the seafood imported into the United States is inspected, meaning that contaminated shipments are likely slipping through the cracks regularly.

In the past, the U.S. Food and Drug Administration (FDA) has found high levels of illegal antibiotics, veterinary drugs and chemicals in farmed seafood from China — one of the biggest exporters to the United States. Between 2003 and 2006, one in 11 laboratory tests that the FDA did conduct on imported seafood turned up unacceptably high levels of disease, decomposition or adulteration. The FDA found food-borne diseases, unclean products, decomposing fish, unsafe levels of chemical residues, and high levels of mercury contamination.[7]

Some supporters of ocean factory fish farms might claim that now is the time to ramp up the industry — placing cages anchored to the seafloor packed with fish off the U.S. coast. However, this practice is associated with a variety of environmental, socioeconomic and public health concerns. Chemicals and uneaten feed flow directly from cages, polluting the water, and farmed fish can weaken wild populations by spreading disease or escaping and interbreeding with wild stocks. These farms can impede access to fishing grounds, making it difficult for fishermen to continue to provide a higher-quality wild product. The BP Deepwater Horizon oil spill makes the Gulf an even less suitable location for open-water fish farms than it already was — and also highlights how important it is to protect the Gulf from industries that can cause major ecological disasters.

What Seafood Is Safe and Sustainable?

Instead of turning to risky imported seafood, consumers, restaurants and retailers should look for safe and sustainable fish produced within the United States. Alaskan salmon, pole-caught mahi-mahi, Atlantic skipjack tuna, Pacific hook-and-line-caught albacore tuna, farmed crawfish from the Gulf, shrimp from the East and West Coasts, and U.S.-farmed mussels are just some of the choices that help support our working waterfronts.



For more information on seafood choices, see Food & Water Watch's Smart Seafood Guide: www.foodandwaterwatch.org/fish/seafood

For more information on what areas are open for fishing in the Gulf, and where to learn more about seafood safety:

- Visit the FDA's website: www.fda.gov/Food/ucm210970.htm
- Call 1-800-627-NOAA for fishery closure information, listen to NOAA Weather Radio, or visit their website: http://response.restoration.noaa.gov/dwh.php?entry_id=809
- Receive text messages on your cell phone about changes to the closed area by texting fishing@gulf to 84469;
- Or follow NOAA on twitter: usnoaagov

Endnotes

1 U.S. Commercial Landings from "Fisheries of the United States – 2008." National Marine Fisheries Service, NOAA, Silvery Spring, 2009 at 6. Available at: http://www.st.nmfs.noaa.gov/st1//fus/fus08/index.html

2 National Marine Fisheries Service. Annual Commercial Landings Statistics. Available at: www.st.nmfs.noaa.gov/st1/commercial/landings/annual_landings.html, accessed on July 7, 2010.

3 Numbers totaled by FWW from each state as listed in: Gulf of Mexico Fishery Management Council. Appendix D, Descriptions of Fishing Communities. "Final Environmental Impact Statement for the Generic Essential Fish Habitat Amendment to the following fishery management plans of the gulf of Mexico (GOM)." March 2004. Available at: www.gulfcouncil.org/fishery_management_plans/essential_fish_habitat.php

4 NOAA. "Deep Water Horizon Statistic Modeling." Accessed July 7, 2010. Available at: http://response.restoration.noaa.gov/dwh.php?entry_id=815

5 Zimmerman, Ann. "Big Skimmer Hindered by Weather; Oil Hits Texas." The Wall Street Journal, July 6.

6 NOAA. "Map of Fishery Closure Boundary." July 4, 2010. Available at: http://sero.nmfs.noaa.gov/deepwater_horizon_oil_spill.htm

7 See Food & Water Watch Report, "Laboratory Error," 2008.

For more information:
web: www.foodandwaterwatch.org
email: info@fwwatch.org
phone: (202) 683-2500 (DC) • (415) 293-9900 (CA)

Copyright © July 2010 Food & Water Watch

Everything New Orleans

New federal aquaculture policy paves way for Gulf of Mexico fish farms

Published: Thursday, June 09, 2011, 7:12 PM Updated: Thursday, June 09, 2011, 7:12 PM

By **Benjamin Alexander-Bloch, The Times-Picayune**

The National Oceanic and Atmospheric Administration's national aquaculture policy released Thursday paves the way for the Gulf of Mexico to be the first region in the country to develop **open-ocean aquaculture** in federal waters, potentially reaping another 64 million pounds of seafood from the ocean.

View full size

NOAA photo, courtesy of Snapperfarm Inc.

Divers survey one of the submersible open-ocean aquaculture cages used to farm Cobia by Snapperfarm Inc. off the coast of Puerto Rico.

Within a year, businesses could begin applying for permits to establish red snapper, grouper and other finfish-farms in Gulf federal waters, which in Louisiana extend from three to 200 miles offshore.

In 2009, the Gulf of Mexico Fisheries Management Council, a regional advisory body that sets fishing regulations in the Gulf for NOAA's Fisheries Service, **established its Gulf fish-farming plan**. But the plan has sat, officially in place but unusable, awaiting formal NOAA regulations.

The Gulf council's plan calls for 10-year offshore fish-farm permits with a total cap on farmed fish production at 64 million pounds. The council initially expected about five to 20 such operations to emerge within the first 10 years, but with start-up costs estimated in the $5 million to $10 million range, the level of interest largely is unknown.

The plan prohibits shrimp farming, and only allows the raising of native Gulf species.
Michael Rubino, the manager of NOAA's aquaculture program, said the Gulf council plan will go through a typical, multi-tiered review process that will culminate in a public comment period. He said that process likely would take about a year to complete and largely would only focus on implementation, with the nuts and bolts of the plan remaining untouched.

The federal government has promoted aquaculture over the past few years as a way to address the growing amount of imported seafood needed to keep pace with demand in the United States.

Approximately 84 percent of the seafood consumed in the United States is imported, with about half of that from aquaculture farms in other countries, according to U.S Department of Commerce.

In 2009, the same year the Gulf council plan was drafted, aquaculture crossed the threshold of providing more than half of all seafood consumed worldwide, according to the United Nations Food and Agriculture Organization.

That means more than half of the fish and shellfish consumed globally is now raised by humans and no longer caught in the wild. In 1970, farmed fish only accounted for about 6 percent of global seafood supply.

So far in U.S. federal waters, the aquaculture industry largely is limited to a few experimental and research facilities. Other countries have developed the industry on a wider scale, some using industrial-scale nets and submersible cages to raise and harvest fish for commercial sale.

Opponents have cited wide-ranging concerns about damage to the Gulf's environment, as well as the effect the industry could have on traditional fishing communities that have relied on catching and selling wild fish. But supporters say the industry could provide an alternative domestic supply to imported, farm-raised seafood.

Domestic aquaculture provides only about 5 percent of the seafood consumed in the U.S, according to Larry Robinson, NOAA's assistant secretary of commerce for conservation and management. And about 80 percent of domestic marine aquaculture consists of shellfish, mainly oysters, clams and mussels, Rubino said.

Also as a part of NOAA's marine aquaculture policy, it has developed general guidelines to provide technical support and competitive grants for farming close to the shore and technologies on land, such as ponds or recirculating tanks to raise fish.

The NOAA policy also places a premium on increasing commercial production of shellfish, restoring shellfish populations and habitats, and improving water quality.

And Eric Schwaab, the head of NOAA's Fisheries Service, said on Thursday that the Gulf council plan and the effort to increase shellfish farming and restoration are the two initiatives "that will grow immediately" out of the implementation of NOAA's new aquaculture policy.

"The Gulf is recovering from hurricanes and an oil spill and fresh water diversions down the Mississippi River, so rebuilding the Gulf will be a priority over the next several years," Rubino said.

© 2011 NOLA.com. All rights reserved.

Back to Article Click to Print

TIME

Tuesday, Jun. 15, 2010

After an Oil Calamity, Is It Time for Natural Gas?

By Erik Heinrich

What's the quickest path to achieving a future in which the U.S. is no longer held hostage by foreign oil and carbon emissions are sharply curtailed? The answer might be natural gas, which some experts predict will become the dominant fuel of the 21st century.

A big advantage for the U.S. is that 98% of the natural gas it consumes comes from North America, including deep pockets of shale gas found in a corridor running from North Dakota to Georgia. That means natural gas should remain available, abundant and cheap for at least the next 100 years. At the same time, carbon emissions from natural gas are about half of competing hydrocarbons such as coal and petroleum. (See pictures of the Gulf oil spill.)

Yet natural gas accounts for just 24% of the total energy consumption in the U.S., vs. about 23% for coal and 37% for petroleum. Some experts think that needs to change. "Natural gas has the potential to play a much bigger role," says David Pumphrey, deputy director of the Energy and National Security Program at Washington's Center for Strategic and International Studies. He believes gas could reach 35% of America's energy pie in the foreseeable future. However, this kind of change won't happen without the support of new federal and state legislation to give power generators, car companies and industrial users a big reason to rethink their business models.

Take electric power, for example. Electricity from the grid, used to light homes and power the country's IT infrastructure, among other functions, consumes the lion's share of energy — 40% of the total, according to the U.S. Energy Information Administration (EIA). Most of that juice is squeezed from coal and nuclear power, but legislation could alter the mix. "The biggest growth area for natural gas, if a price is put on carbon emissions, is almost certainly electricity generation," says Ernest Moniz, director of the Massachusetts Institute of Technology Energy Initiative in Cambridge, Mass.

Transportation is the other potential growth sector for natural gas. After electric power, it is the second largest consumer of energy in the U.S., at 28% of the total. But there is an especially evil twist here: transportation is responsible for 71% of petroleum consumed, much of it from foreign sources. Natural-gas advocates say now is the time to reduce that vulnerability. "We have a solution staring us in the face," says Sean McAlinden, executive vice president of the Center for Automotive Research in Ann Arbor, Mich. "Since natural-gas fuel costs one-third the price of gasoline but only cuts range by half, it's more efficient." (See TIME's video "Oil-Spill Anxiety on the Bayou.")

Natural-gas vehicles (NGVs) are also more efficient than battery-electric vehicles (BEVs). A full tank of natural gas will power a car to go twice as far as a single charge from the battery-powered Nissan Leaf and five times the distance of GM's top-of-line BEV, the Volt.

Yet over the years, Detroit has largely given natural gas the cold shoulder. In the 1990s, Detroit, and in particular Ford Motor Co., actually tried to push NGVs into fleet sales. But at the time, gasoline was cheap, and as a result, corporate and taxi fleets showed little interest in the alternative fuel. Today, Washington, influenced by an environmental lobby opposed to all forms of fossil fuels, is heavily backing advanced battery technology with billions of dollars in funding for R&D and manufacturing. Meanwhile, alternative fuels such as natural gas and advanced diesel are being ignored by policymakers. "This is not only risky, but it actually warps private investment by the automakers, who see leveraged federal dollars available if they will just commit to this single technology," says McAlinden.

Still, natural gas has some serious impediments. Converting a gasoline car to natural gas is expensive, costing anywhere from $6,000 to $12,000. More crucial, there is no refueling infrastructure. (The latter also holds true for BEVs, however, and the cost of building out service stations for either option is expected to be about the same.)

Nevertheless, in the wake of the oil crisis in the Gulf, natural gas could see its base of support grow. "A lot of people love it," says Pumphrey. "Natural gas could still turn out to be a game changer."

See 12 people to blame for the oil spill.

See pictures of critters caught in the Gulf oil spill.

Click to Print

Find this article at:
http://www.time.com/time/business/article/0,8599,1995119,00.html

Copyright © 2011 Time Inc. All rights reserved. Reproduction in whole or in part without permission is prohibited.
Privacy Policy | Add TIME Headlines to your Site | Contact Us | Customer Service

A Year After the Spill

The Consequences of COREXIT

food&waterwatch

Issue Brief • April 2011

On April 20, 2010, BP's Deepwater Horizon drilling rig exploded. Seventeen crewmembers were injured and 11 died.[1] Two days later, on Earth Day, the rig sank into the Gulf of Mexico.[2] These events were the beginning of a catastrophic environmental, economic and social disaster. On April 22nd, the agency tasked with responding to the spill determined that there was a leak at the wellhead and that cleanup crews would use chemical dispersants to combat the oil spill.[3] Referring to the decision to use dispersants, the Coast Guard's 8th District commander, Rear Admiral Mary Landry stated, "Our goal is to fight this oil spill as far away from the coastline as possible."[4] Was this successful, or did use of dispersants do more harm than good?

What is the cost of spilled oil?

Under the Clean Water Act, the owner and operator of an oil platform faces fines of up to $1,100 for each barrel of oil spilled.[5] If authorities determined that BP committed gross negligence or willful misconduct, the fine for the Deepwater Horizon spill could be up to $4,300 per barrel.[6] Based on the government's estimate that 206 million gallons of oil leaked from the Deepwater Horizon blowout, BP could face civil fines alone between $5.4 billion to $21.1 billion.[7]

To mitigate the disastrous Deepwater Horizon oil spill off the coast of Louisiana, both BP and the U.S. government used two types of COREXIT, a dispersant that was originally developed by Exxon and is now manufactured by Nalco Holding Company.[8] A total of 1.84 million gallons of dispersants were added to the Gulf of Mexico over several months.[9] A combined volume of 1.06 million gallons of COREXIT 9500A and 9527 were sprayed on the surface using planes and boats.[10] A new technique to apply dispersant was also used, adding 0.78 million gallons of COREXIT 9500A directly at the leak in the wellhead, approximately 5,000 feet below the surface of the water.[11]

Both the novel application technique and the unprecedented volume of dispersant used make the BP Deepwater Horizon response unique.[12] Many experts remain concerned about the increased use of toxins in the ocean which may lead to longer-term ecological problems and may have unpredictable impacts from use of the chemical underwater.

Dispersants do not eliminate oil from the environment; they break down the oil into smaller, less visible particles and often sink it to the bottom, out of sight. The dispersant and the smaller oil particles remain as toxins in the water.[13] Although dispersants do transfer oil away from the sur-

face of the water, they increase exposure deeper below the ocean's surface and on the seafloor, increasing exposure for fish, eggs, larvae, shrimp, corals and oysters.[14] Dispersants may prevent unsightly masses of oil from washing up on our beaches, but the oil becomes a more persistent presence in the environment, with increased likelihood of long-term ecological effects. The use of dispersants is a trade-off between two bad options: more oil on the shore or more oil in the ocean.[15] It is hard to decide which is worse without sufficient information on possible outcomes. Scientific literature still disputes the usefulness of dispersants on reducing wildlife impacts.[16] A year after the decision to apply large volumes of dispersants to the gulf, including application through the untested underwater technique, scientists are publishing their findings from various studies.

Profiting from the use of COREXIT in the gulf?

Nalco Holding Company's board of directors includes a former BP executive and board member.[17] This connection between BP and Nalco raises the question as to why COREXIT was exclusively used for the Deepwater Horizon spill, rather than other dispersants that are associated with less ecological damage and that could have performed better on the type of oil spilled into the gulf. Nalco Holding Company has shown tremendous revenue gains since it was announced that cleanup crews in the gulf would use its products. The company reported second-quarter profits of 41 cents per share after the spill, a 215 percent adjusted earnings per share.[18] Second-quarter revenue jumped 19 percent, equaling $1.09 billion, in part due to $70 million in dispersant sales to the government and BP.[19]

How are dispersants regulated?

The Oil Pollution Act of 1990 amended Section 311 of the Clean Water Act to include plans for a National Oil and Hazardous Substances Pollution Contingency Plan (NCP) and delegated authority to the president to manage this plan. The NCP, prepared by the U.S. Environmental Protection Agency (EPA), includes a schedule of dispersants and other chemicals that can be used to mitigate oil spills, lists the appropriate quantities for use, and identifies the waters in which they may be used.[20] To be added to the NCP product schedule, a manufacturer is simply required to determine the product's category and supply data, including recommended use, effectiveness and toxicity. It is the company's responsibility to determine this information, and it is not tested or verified according to any specific government criteria.[21]

Toxic concerns

A standard method for measuring toxicity is to determine the lethal concentration that kills 50 percent of the sample organisms (in shorthand called "LC50") during a set period of time. The LC50 values for the NCP are based on 48- and 96-hour timeframes. Higher LC50 values indicate lower toxicity. Another method for evaluating toxicity is to measure the effective concentration that causes a specific effect on 50 percent of the sample organisms (known as "EC50") in a set timeframe. The specific effects could include reduced reproduction, decreased movement or reduced ability to obtain food. LC50 is the method used to compare the toxicity levels of different dispersants on the NCP, meaning that death is the only concern of these toxicity tests, and not possible long-term effects. Manufacturers of dispersants submit LC50 toxicity tests for both the dispersant and the oil plus the dispersant to the EPA for their product to be added to the NCP.

Toxicologists question the reliability of this testing method due to the many variables involved, and experts are concerned about whether it can be effectively used to accurately compare impacts from different dispersants.[22] "There isn't any information on what is the environmentally relevant level of dispersant," says toxicologist Carys Mitchelmore at the University of Maryland's Chesapeake Biological Laboratory.[23] Both forms of COREXIT used in the gulf are capable of killing or depressing the growth of a wide range of creatures, from phytoplankton to fish.[24]

President Barack Obama and Lafourche Parish President Charlotte Randolf inspect a tar ball on a Louisiana beach on May 28, 2010 resulting from the BP Horizon oil spill. Photo by Chuck Kennedy.

"EPA was presenting only part of the risk equation." – Peter Hodson, aquatic toxicologist[25]

One toxic component in crude oil, polycyclic aromatic hydrocarbons (PAHs), gets a great deal of attention in toxicity testing due to its health impacts. PAHs do not make up the bulk of crude oil, but they can remain in the environment longer than other hydrocarbon components of oil.[26] Nalco's toxicologist, Sergio Alex Villalobos, while speaking of dispersants, stated, "Once it's mixed with oil, that's where you get the most impact, that's where you see most of the toxicity."[27] This elevated toxicity is due to an increase in accessibility of PAHs in dispersed clouds or plumes of oil. The dispersed cloud of microscopic oil droplets allows the PAHs to contaminate a volume of water 100 to 1,000 times greater than if the oil were confined to a floating surface slick.[28] Large numbers of fish could have been exposed to dispersed oil.[29] Exposure lasting as little as one hour could affect embryonic fish.[30]

One big experiment

Beginning in late May, plumes of tiny underwater oil droplets were discovered by various university researchers. At that time, BP executives denied that the plumes of oil existed.[31] On June 8, university researchers and the National Oceanic and Atmospheric Administration (NOAA) confirmed that the plumes not only existed, but that at least one of the plumes originated from the Horizon.[32] The dispersant applied to the spill at and below the surface kept oil particles in the deep ocean.[33] One plume found by the University of Georgia was 10 miles long, three miles wide and 300 feet thick at some points.[34] Researchers from the University of South Florida (USF) found a plume 45 nautical miles to the northeast of the well, as wide as 100 feet in some places and at depths of 3,300 to 4,300 feet below the surface of the gulf.[35] David Hollander, a chemical oceanographer at USF, stated, "What we have learned completely changes the idea of what an oil spill is."[36] Droplets of dispersed oil are more easily absorbed and consumed by marine animals.[37] The plumes are large enough and dissipating so slowly that many animals might be bathed in dispersed oil for an extended time.[38]

Dr. Samantha Joye of the Department of Marine Sciences at the University of Georgia conducted research on the seafloor in the Gulf of Mexico before the Deepwater Horizon Oil spill. Since the spill, her research team has taken samples from the seafloor. In the summer, they recorded thick oil residue on the seafloor. Upon returning in December, the team expected the residue to have been gone, but a large amount remained.[39] A number of factors affect the biodegradation rates of oil, such as water temperature, oxygen content and

Carl Pellegrin (left) of the Louisiana Department of Wildlife and Fisheries and Tim Kimmel of the U.S. Fish and Wildlife Service prepare to net an oiled pelican in Louisiana, one of the many animals affected by the Deepwater Horizon oil spill. Photo by John Miller (U.S. Coast Guard).

the presence of microorganisms.[40] Dr. Joye attributes this unexpected phenomenon to an unknown impediment in the natural system of oil degradation.[41] The impacts from the dispersant application at the subsurface could be to blame.

Speaking about the subsurface application of dispersant, Mani Ramesh, chief technology officer for Nalco, stated, "We do not have any knowledge that would allow us to predict what would happen."[42]

Dispersants are a mixture of hydrocarbon-based solvents and surfactants.[43] A study to determine the fate of dispersants used in the Deepwater Horizon spill traced dioctyl sodium sulfosuccinate (DOSS), an ingredient in both forms of COREXIT, through the seawater of the gulf.[44] The dispersant applied below the surface appears to have been trapped in the deep layers of the ocean, supporting previous work by other researchers.[45] Dispersant traveled across the water due to the currents and different densities of saltwater layers, with the majority of the higher concentrations of dispersant occurring in the depths between approximately 3,280 and 3,900 feet.[46] The DOSS was not degraded, and was less concentrated mainly from dilution in the Gulf of Mexico.[47] The study concluded that it could not "assess whether the dispersant application was successful in reducing the oil droplet size or in increasing the sequestration of oil in deep water."[48] The Operational Science Advisory Team (OSAT) at the Unified Area Command released data showing that another component of the dispersant was lingering in the Gulf as well.[49] The continued existence of components from dispersants is unexpected; COREXIT was thought to decompose almost entirely in 28 days.[50] This persistence in the environment raises concerns regarding possible long-term impacts and lengthens exposure times for people and wildlife.

"Basic physiology suggests that dispersed oil will negatively impact the reproductive capabilities of a wide variety of animals." – Richard Condrey, an associate professor at LSU's Department of Oceanography and Coastal Sciences who specializes in coastal ecology and fishery management.[51]

Many creatures live in the Gulf of Mexico or migrate through its waters. Deep ocean species have unique daily migration patterns: They move down into the depths during the day, seeking cover in the darkness, and in the evening, they move back up the water column in search of food. While this occurs on a daily basis, currents also move animals and plankton over great distances across the gulf. Such daily migrations increase the likelihood of exposure to contaminants in the water, like oil and dispersant plumes.[52] The oil and dispersant that remain in the environment may have a greater impact on early life stages (eggs or larvae) of fish, which could include many types of commercially caught species.[53] Bluefin tuna would have been breeding in the Gulf of Mexico during the same time the oil and dispersants were added to the gulf, and there is great concern about the future impacts this will have on the already depleted bluefin population.

Fishing boats on the bayou in Delacroix, Louisiana. Photo by Infrogmation of New Orleans.

Wildlife deaths

In the beginning of March 2011, NOAA declared an "unusual mortality event": more than 80 dead dolphins found on the shores of gulf states between mid-January and early March 2011.[54] As of April 7, 2011, 153 dead dolphins have washed ashore along the Gulf Coast since the beginning of the year.[55] Sixty-five were stillborn, premature or newborn.[56] Scientists are working to discover the cause of the large number of mortalities and are examining oil, dispersant and cold temperatures as possible factors.[57] It is possible that many marine mammal deaths are still uncounted. A 2011 study suggests that, "the true death toll could be fifty times the number of carcasses recovered."[58] Taking these potential unknown deaths into account, 7,650 dolphins may have died in the gulf since the beginning of the year. From April 30, 2010 to February 15, 2011 there were also 609 sea turtle deaths reported, with another 46 deaths reported between March 15 and March 30, 2011 along the shores of Mississippi, Alabama and Louisiana.[59] It is likely that many more sea turtles have died, and these fatalities are going unrecorded for various reasons, similar to the dolphin count. All five species of the sea turtles in the Gulf of Mexico were, prior to the spill, already listed under the Endangered Species Act as threatened or endangered.[60] On December 14, 2010 the U.S. Fish and Wildlife Service's count of dead birds in the area totaled 6,045.[61] A representative of the agency said: "We expect that the number of oiled birds collected may represent only a portion of the total birds affected by the spill."[62]

Human health impacts

Researchers remain concerned about the impact on human health from both the dispersant and the oil added to the gulf during the Deepwater Horizon spill. Historically, people have reported assorted detrimental effects from contact with dispersants in oil spill cleanup efforts. COREXIT was one of several dispersants used during the 1989 Exxon Valdez spill in Alaska.[63] Nearly 7,000 cleanup workers from the Valdez spill reported feeling ill with respiratory distress at the time.[64] The reported average age of death for people that worked with dispersants in Alaska is around 50 years old.[65] Despite these red flags pointing to possible human health impacts, dispersants were chosen as a tool to fight the oil spill in the gulf. Unfortunately, officials missed a crucial window for gathering baseline physical health information by not surveying individuals in the area before workers and the general public were exposed to oil and dispersant.[66] All the health studies that try to track the impacts of the Deepwater Horizon spill will suffer from this missing data, but many groups are working to draw the best information possible from this large-scale gulf experiment.

During the BP Deepwater Horizon spill there have been many reported cases of people falling ill. Four men were hospitalized after their boat was accidentally doused with dispersant, just days after nine other cleanup workers reportedly became violently ill near the spill in May.[67] Described symptoms included headaches, nausea and severe respiratory problems.[68] In early August, 361 people in Louisiana claimed spill-related health problems, including headaches and dizziness.[69] Of that number, 275 were oil workers or cleanup workers helping to mitigate the spill.[70] The remaining 84 were members of the general public reporting health concerns related to oil spill exposure.[71]

Louisiana Environmental Action Network (LEAN) tested blood from five people that came in contact with oil and dispersants and had physical ailments.[72] All five individuals had chemicals present in their blood that corresponded to the chemicals found in oil, dispersant or both,[73] some in excess of the National Health and Nutrition Examination Survey 95th percentile.[74]

Tulane University's Disaster Resilience Leadership Academy and the Louisiana Bucket Brigade surveyed 954 Louisiana residents to determine the impacts the oil spill had on human health and the economy in coastal communities.[75] The survey, conducted mainly door-to-door, took place in four parishes, 11 days after the well was capped.[76] Forty-eight percent of all respondents reported having an unusual increase in coughing, headaches and skin and eye irritation. The sudden onset of these symptoms, which quickly subsided, is consistent with chemical exposure.[77] Surveyors may have been unable to reach many people who were involved in the oil spill cleanup, due to the door-to-door nature of the survey, which was conducted during working hours. Therefore, the people most likely to have come in contact with oil and dispersant may not be included in the survey results.

"There is surprisingly little information in an organized way about what happens after an oil spill." – Dale Sandler, Ph.D. chief of the Epidemiology Branch at NIEHS and lead researcher on the NIH health study[78]

Due to the "lack of accepted science in the field" the National Institute of Health (NIH) began a large-scale study to track the health impacts of residents directly exposed to oil and dispersants in Louisiana, Mississippi, Alabama and Florida.[79] The study calls for a total of 55,000 interviews.[80] The initial 20,000 to 25,000 interviews and follow-ups will take place over a 10-year period.[81] Cleanup workers that were trained, but did not take part in cleanup efforts, will serve as a baseline in the study, measured against those that did participate in cleanup activities.[82] Researchers will be tracking health impacts such as neurologic, carcinogenic, respiratory and immunological concerns in an attempt to draw conclusive information about effects from oil and dispersant on the people of the gulf region.[83] NIH has committed $17.8 million to the study with $6 million coming from BP ($4 million less than the $10 million BP originally planned to contribute to the study).[84]

Possible economic impacts

The Gulf of Mexico is known as a tourist destination and for its seafood, as well as for oil production. The environmental impacts caused by the oil and dispersants released into the gulf during the Horizon disaster will likely cause negative effects on fishing and tourism long into the future. Tulane University's Disaster Resilience Leadership Academy and the Louisiana Bucket Brigade survey found that 44 percent of those asked felt that the livelihood of the primary provider in their home had been harmed by the Deepwater Horizon oil spill.[85]

In the five gulf states, tourism and commercial fisheries generate more than $40 billion annually.[86] Three months after the oil spill began, Alabama's tourism was down 50 percent.[87] Wary vacationers canceled trips, avoiding the possible contamination from both the dispersants and the oil that were reported in various locations around the gulf.[88]

In 2008, commercial fishermen in the gulf caught 1.27 billion pounds of fish and shellfish worth $659 million.[89] Louisiana was the number-one provider of shrimp, oysters and crabs in the United States.[90] The seafood industry in Louisiana was worth $2.4 billion and employed more than 27,000 people.[91] The state supplied up to 40 percent of U.S. seafood.[92] Even though NOAA reopened 90 percent of the federal waters in the gulf to fishing, it is unlikely the region's seafood can regain this level of popularity anytime soon. Consumers have ongoing concerns about contaminated seafood. Unknown impacts on fish populations that may have come in contact with oil and/or dispersants may prevent the economic recovery of the fishing industry.[93] Animals that may not have come in direct contact with contaminants themselves could still be affected through the contamination of the food chain and the loss of other key organisms.

Royal red shrimp

On November 24, 2010, NOAA closed 4,213 square miles of the gulf to royal red shrimp fishing, just nine days after the agency had cleared the area for fishing.[110] The closure was due to tar balls found in shrimping nets.[111] Royal reds are the only shrimp caught in the Gulf of Mexico in waters deeper than 600 feet.[112] NOAA analyzed samples of royal red and penaeid shrimp from the area to determine the contamination level of the seafood caught there.[113] It is unclear if these tests separated royal reds from the other, shallower species that would not have been as likely to come in contact with the tar balls. This example helps to outline how difficult it can be to test for seafood safety: If the testing was not species-specific, the shallower shrimp might have been masking the royal reds' true level of contamination when the area was opened.

Testing for dispersant (and oil)

Ten days after the disastrous oil spill began, government agencies closed 87,481 square miles of state and federal waters in the gulf to fishing.[94] Now, approaching the one-year anniversary of the spill, all but the 1,041 square miles directly around the spill site are open.[95] The original agreed-upon method to reopen waters to fishing consisted of a "sensory test" where a minimum of 10 experts sniffed raw and cooked seafood samples.[96] If at least 70 percent of the experts found the samples to be without contamination from chemicals, then the sample passed.[97]

On October 29, NOAA and the U.S. Food and Drug Administration (FDA) finally unveiled the test that was invented to detect the presence of chemical dispersants used during the spill.[98] The levels of concern set by the agencies are 100 parts per million (ppm) for finfish and 500 ppm for crabs and shrimp.[99]

Some experts worry that the government testing has not been rigorous enough[100] and believe the tests are too limited and may overlook some chemicals with possible health implications.[101] Oil and dispersants have been found lingering in the environment longer than previously expected. From this information, Dr. Susan Shaw, a marine toxicologist on the Department of Interior's Strategic Sciences Working Group, believes we can "reasonably predict that there are going to be more and more findings in the food chain."[102]

Along with concerns about seafood testing, many question the formula used to set allowable contaminant levels for consumers.[103] The FDA placed gulf residents in the top 10 percent of seafood consumers nationally, since there was "no scientifically acceptable survey."[104] A recent survey showed that gulf residents ate 12 times more seafood than the government had assumed, and had especially high rates of shrimp consumption.[105]

It is also problematic that FDA-based consumption levels assume an average body weight of 176 pounds.[106] This body weight is not an accurate factor to determine the amount of seafood that children can safely consume.[107] The Louisiana State Department of Health tested nearly 800 samples between April 30 and November 22 and 37 percent of these samples had trace amounts of various chemicals.[108] Depending on consumption levels and body weight, these trace amounts may not be safe for some consumers. It is no surprise that, despite government assurances, "some citizens continue to doubt the safety of Gulf seafood."[109]

Conclusion

A year after the BP Deepwater Horizon spill began, we still do not understand the full impact of the oil and dispersants that were added to the Gulf of Mexico. Long-term studies are the only way to fill the gap of knowledge that exists after the government and BP chose to use dispersants as a tool to mitigate the spilled oil.

The decision to use dispersants, especially via untested and unconventional application methods, was done without the full understanding of the "trade-offs" that were being hastily made. Only time and research will tell how the environment, consumers, wildlife and the people of the Gulf Coast will pay for that decision.

Misplaced priorities for the federal budget?

President Obama's 2012 budget for NOAA — the agency tasked with conserving and managing living marine resources — proposes spending a whopping $54 million to implement a new controversial fisheries management program that can push smaller-scale historic fishermen out of business, result in lower wages for boat captains and crew, and even hurt the marine environment by encouraging more industrial-style fishing. NOAA's proposed budget also allocates $4.3 million toward controversial ocean factory fish farming projects. Farming fin fish in the ocean is a widely unpopular experiment, as evidenced by the inability of several administrations to pass legislation allowing it in waters off the U.S. coast. Globally, the experience with ocean fish farming has been disastrous, with millions of fish escaping into the wild annually, as well as the pollution, chemicals and diseases from crowded factory fish farm conditions affecting ocean waters. In contrast, NOAA's proposed budget request for oil spill recovery efforts in the Gulf of Mexico is a mere $2.9 million. Is it our goal to help our fishermen recover or destroy their livelihood forever?

Endnotes

1 National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling "Deep Water The Gulf oil Disaster and the Future of Offshore Drilling. Report to the President." January 2011 at 191.
2 *Ibid.* at 18.
3 Restore the Gulf. "About Restore the Gulf." Available at http://www.restorethegulf.gov/category/about accessed March 2010.
National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling. at 143.
4 Ramon Antonio Vargas, "Oil is Leaking from Well at Deepwater Horizon Explosion Site," *Times-Picayune*, April 24, 2010.
5 Cappiello, Dina. "New BP debate over size of spill could affect fine." *Associated Press.* December 3, 2010.
6 *Ibid*.
7 *Ibid*.
8 Taylor, John. "Gulf Oil Spill: BP Trying to Hide Millions of Gallons of Toxic Oil? BP Embraces Exxon's Toxic Dispersant, Ignores Safer Alternative." May 3, 2010.
Operational Science Advisory Team (OSAT) Unified Area Command. "Summary Report for Sub-Sea and Sub-Surface Oil and Dispersant Detection: Sampling and Monitoring" Prepared for Paul F. Zukunft, RADM, U.S. Coast Guard Federal On-Scene Coordinator Deepwater Horizon MC252. December 17, 2010 at 6.
9 Operational Science Advisory Team (OSAT) Unified Area Command. "Summary Report for Sub-Sea and Sub-Surface Oil and Dispersant Detection: Sampling and Monitoring" Prepared for Paul F. Zukunft, RADM, U.S. Coast Guard Federal On-Scene Coordinator Deepwater Horizon MC252. December 17, 2010 at 6.
10 *Ibid*. at 6.
11 *Ibid*. at 6.
Biello, David "Is Using Dispersants on the BP Gulf Oil Spill Fighting Pollution with Pollution?" *Scientific American.* June 18, 2010.
12 National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling "Deep Water The Gulf oil Disaster and the Future of Offshore Drilling. Report to the President." January 2011 at 143.
Biello, David "Is Using Dispersants on the BP Gulf Oil Spill Fighting Pollution with Pollution?" *Scientific American*. June 18, 2010.
13 Judy Woodruff interview with Sylvia Earl. "Gulf Coast Oil Spill Adds 'Insult to Injuries' for Ocean's Health." *PBS*. May 5, 2010.
14 Committee on Understanding Oil Spill Dispersants. "Oil Spill Dispersants: Efficacy and Effects." National Research Council, 2005.
15 National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling "Deep Water The Gulf oil Disaster and the Future of Offshore Drilling. Report to the President." January 2011 at 143.
16 Fingas, Merv. "A Review of Literature Related to Oil Spill Dispersants 1997-2008." For Prince William Sound Regional Citizens' Advisory Council Anchorage, Alaska September 2008 at iii.
17 Nalco, Biography of Rodney F. Chase, Director. Available at: http://phx.corporate-ir.net/phoenix.zhtml?c=182822&p=irol-govBio&ID=139045
18 Nalco. [Press Release]. "News Release: Nalco Reports Second Quarter 2010 Financial Results." July 27, 2010. Calculations on file at Food & Water Watch.
19 Nalco. [Press Release]. "News Release: Nalco Reports Second Quarter 2010 Financial Results." July 27, 2010.
20 Oil and hazardous substance liability, Clean Water Act. 33 U.S.C § 1321 (2002).
21 Environmental Protection Agency. National Oil and Hazardous Substances Pollution Contingency Plan Product Schedule, Subpart J § 300. 915. (May 3, 2010).
22 Biello, David "Is Using Dispersants on the BP Gulf Oil Spill Fighting Pollution with Pollution?" *Scientific American*, June 18, 2010.
23 *Ibid.*
24 *Ibid.*
25 Lovett, Richard. "Oil spill's toxic trade-off." Quoting Peter Hodson, aquatic toxicologist at the meeting of the Society of Environmental Toxicology and Chemistry. *Scientific American*. November 10, 2010.
26 Lovett, Richard. "Oil spill's toxic trade-off." Quoting Ronald Atlas, microbiologist at the meeting of the Society of Environmental Toxicology and Chemistry. *Scientific American.* November 10, 2010.
27 Biello, David. "Doubts on Dispersants." *Scientific American.* August 1, 2010
28 Lovett, Richard. "Oil spill's toxic trade-off." Quoting Peter Hodson, aquatic toxicologist at the meeting of the Society of Environmental Toxicology and Chemistry. *Scientific American*. November 10, 2010.
29 *Ibid.*
30 *Ibid.*
31 Sara, Kennedy. "Researchers confirm subsea Gulf oil plumes are from BP well." *McClatchy Newspapers* (St. Petersburg, Fl.) July 23, 2010.
32 Gillis, Justin. " Plumes of oil Below Surface Raise New Concerns." *The New York Times.* June 8, 2010.
33 Dearen, Jason and Sedensky, Matt. "Deep Sea Oil Plumes, Dispersants Endanger Reefs." *ABCNews* May 17, 2010.
34 Reilly, Michael. "Giant Underwater "Plumes" of Oil Discovered in Gulf." *Discovery News*. May 16, 2010.
35 "Researchers confirm subsea Gulf oil plumes are from BP well." Kennedy, Sara. *McClatchy Newspaper.* (St. Petersburg, Fl.) July 23, 2010.
36 *Ibid.*
37 *Ibid.*
38 Gillis, Justin. " Plumes of oil Below Surface Raise New Concerns." *The New York Times.* June 8, 2010.
Gillis, Justin and Rudolf, J. C. " Oil Plume Is Not Breaking Down Fast, Study Says." *The New York Times.* August 9, 2010.
39 Borenstein, Seth, Associated Press Science Writer. "Scientist finds Gulf bottom still oily, dead." *USAToday.* February 20, 2011.
40 EPA. "Questions and Answers on Dispersants." Available at http://www.epa.gov/bpspill/dispersants-qanda.html, accessed on November 2010.
41 Borenstein, Seth, Associated Press Science Writer. "Scientist finds Gulf bottom still oily, dead." *USAToday*. February 20, 2011.
42 Biello, David "Is Using Dispersants on the BP Gulf Oil Spill Fighting Pollution with Pollution?" *Scientific American*, June 18, 2010.
43 Kujawinski, Elizabeth, et al. "Fate of Dispersants Associated with the Deepwater Horizon Oil Spill." *Environmental Science and Technology posted on the American Chemical Society*. January 6, 2011.
44 *Ibid.*
45 *Ibid.*
46 *Ibid.*
47 *Ibid.*
48 *Ibid.*
49 *Ibid.*
50 Biello, David "Is Using Dispersants on the BP Gulf Oil Spill Fighting Pollution with Pollution?" *Scientific American*. June 18, 2010.
51 McBride, Daniel. "BP's Spill Lesson Draws Criticism." *Daily Comet* (Lafourche Parish, Louisiana). November 14, 2010.
52 U.S. Department of the Interior "DOI Strategic Science Working Group Mississippi Canyon 252/ Deepwater Horizon Oil Spill Progress Report 9 June 2010." Released June 9, 2010.
53 Westerholm, David, Director, Office Response and Restoration National Ocean Service National Oceanic and Atmospheric Administration. U.S. Department of Commerce. Testimony on Oversight Hearing on the Use of Dispersant in The Deepwater Horizon Oil Spill. August 4, 2010.
54 Coleman, Leigh. "Scientists debate cause of dolphin deaths." *Reuters*. March 4, 2010.
McCarthy, Michael. "Oil spill link suspected as dead dolphins wash ashore." *The Independent* (United Kingdom). March 1, 2011.
55 Coleman, Leigh. "Scientists debate cause of dolphin deaths." *Reuters*. March 4, 2010.
McCarthy, Michael. "Oil spill link suspected as dead dolphins wash ashore." *The Independent* (United Kingdom). March 1, 2011.
"Oiled dead dolphins washing ashore, 8 months after spill." *Associated Press.* April 7, 2011.
56 "Oiled dead dolphins washing ashore, 8 months after spill." *Associated Press.* April 7, 2011.
57 Pittman, Craig. "Dead dolphins, turtles still washing ashore along gulf coast." *St Petersburg Times* (Tampa Bay, Florida). April 7, 2011.
Coleman, Leigh. "Scientists debate cause of dolphin deaths." *Reuters*. March 4, 2010.
McCarthy, Michael. "Oil spill link suspected as dead dolphins wash ashore." *The Independent* (United Kingdom). March 1, 2011.
58 Williams, Rob et al. "Underestimating the damage: interpreting cetacean carcass recoveries in the context of the Deepwater Horizon/BP incident." *Conservation Letters.* (0) 1-6. March 30, 2011.
59 NOAA Fisheries Office of Protected Resources *"Sea Turtles and the Gulf of Mexico Oil Spill."* Available at http://www.nmfs.noaa.gov/pr/health/oilspill/turtles.htm, accessed on April 13, 2011.
"Sea turtles deaths up along Gulf, joining dolphin trend." *MSNBC.* March 30, 2011.
60 "Sea turtles deaths up along Gulf, joining dolphin trend." *MSNBC.* March 30, 2011.
NOAA Fisheries Office of Protected Resources. "Marine Turtles." Available at http://www.nmfs/noaa.gov/pr/species/turtles/ accessed on April 13, 2011.
National Park Service. "Sea Turtle Science and Recovery." Available at http://www.nps.gov/archive/pais/website/sea_turtle_science_and _recovery.htm accessed on April 13, 2011.
61 "Bird impact Data from DOI-ERDC Database Download 14 Dec. 2010." United States Fish and Wildlife Service. Accessed on April 13, 2011.
62 "Bird impact Data from DOI-ERDC Database Download 14 Dec. 2010." United States Fish and Wildlife Service. Accessed on April 13, 2011.
63 "Officials: More Oil Spill Workers Getting Sick." [Television broadcast] ABC News channel 16- WAPT. May 30, 2010.
64 "Exxon Valdez disaster facts and figures." *The Times* (United Kingdom). Posted June 11, 2010. Accessed on November 17, 2010.
65 "Oil spill update: EPA whistleblower speaks on Corexit, says dolphins, people hemorrhaging (video)" *The Examiner*. July 22, 2010.
66 National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling "Deep Water The Gulf oil Disaster and the Future of Offshore Drilling. Report to the President." January 2011 at 193.
67 "Officials: More Oil Spill Workers Getting Sick." [Television broadcast] ABC News channel 16- WAPT. May 30, 2010.
68 *Ibid.*
69 "334 in Louisiana Blame Illness on Oil Spill." *CBS News.* August 3, 2010.
Louisiana Department of Health and Hospital Oil Spill Resources [Press

release].“Louisiana DHH Releases Oil Spill Related Exposure Information.” August 10, 2010.
70 Louisiana Department of Health and Hospital Oil Spill Resources [Press release]. “Louisiana DHH Releases Oil Spill Related Exposure Information.” August 10, 2010.
71 *Ibid.*
72 Barrow, Bill. “BP oil spill’s health effects will be felt for generations, scientist warns.” *The Times-Picayune*. February 5, 2011.
Subra, Wilma. “Evaluation of the Results of Whole Blood Volatile Solvents Testing.” *Subra Company for the Louisiana Environmental Action Network*. Accessed February 10, 2011.
73 Barrow, Bill. “BP oil spill’s health effects will be felt for generations, scientist warns.” *The Times-Picayune*. February 5, 2011.
Subra, Wilma. “Evaluation of the Results of Whole Blood Volatile Solvents Testing.” *Subra Company for the Louisiana Environmental Action Network*. Accessed February 10, 2011.
74 Barrow, Bill. “BP oil spill’s health effects will be felt for generations, scientist warns.” *The Times-Picayune*. February 5, 2011.
Subra, Wilma. “Evaluation of the Results of Whole Blood Volatile Solvents Testing.” *Subra Company for the Louisiana Environmental Action Network*. Accessed February 10, 2011.
75 “The BP Oil Disaster: Results from a Health and Economic Impact Survey in Four Coastal Louisiana Parishes” Tulane University’s Disaster Resilience Leadership Academy and the Louisiana Bucket Brigade. March 2011 at 1.
76 *Ibid.*
77 *Ibid.*
78 Barrow, Bill “Health study on effects of Gulf of Mexico oil spill revs up.” The Times-Picayune. Updated February 21, 2011.
79 *Ibid.*
80 *Ibid.*
81 *Ibid.*
82 National Institute of Health. “NIH to launch Gulf oil spill study. BP will provide additional funds for research.” NIH News National Institute of Health. Released September 7, 2010.
83 *Ibid.*
84 Barrow, Bill “Health study on effects of Gulf of Mexico oil spill revs up.” The Times-Picayune. Updated February 21, 2011.
National Institute of Health. “NIH to launch Gulf oil spill study. BP will provide additional funds for research.” News National Institute of Health. Released September 7, 2010.
85 “The BP Oil Disaster: Results from a Health and Economic Impact Survey in Four Coastal Louisiana Parishes” at 4.
86 National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling “Deep Water The Gulf oil Disaster and the Future of Offshore Drilling. Report to the President.” January 2011 at 187.
87 Bowen, Cynthia. “Oil spill taking a toll on Fla. Tourism.” *CBS News*. June 20, 2010
88 Jones, Charisse and Jervis, Rick. “Oil spill takes toll on tourism on Gulf Coast.” *USA Today*. June 25, 2010.
89 National Oceanic and Atmospheric Administration. “NOAA’s Oil Spill Response: Fish Stocks in the Gulf of Mexico.” May 12, 2010.
90 Rickard, Mary “Gulf Coast oil spill chills seafood industry,” *Reuters*, May 12, 2010.
91 *Ibid.*
92 *Ibid.*
93 National Oceanic and Atmospheric Administration. “NOAA’s Oil Spill Response: Fish Stocks in the Gulf of Mexico.” May 12, 2010.
94 Operational Science Advisory Team (OSAT) Unified Area Command. “Summary Report for Sub-Sea and Sub-Surface Oil and Dispersant Detection: Sampling and Monitoring” Prepared for Paul F. Zukunft, RADM, U.S. Coast Guard Federal On-Scene Coordinator Deepwater Horizon MC252. December 17, 2010 at 2
95 NOAA [Press release]. “NOAA Reopens More Than 8,000 Square Miles in the Gulf of Mexico to Fishing.” November 15, 2010.
96 FDA. “Overview of Testing Protocol to Re-open Harvest Waters that were Closed in Response to the Deepwater Horizon Oil Spill.” July 15, 2010.
97 *Ibid.*
98 NOAA [Press release]. “NOAA Reopens More Than 8,000 Square Miles in the Gulf of Mexico to Fishing.” November 15, 2010.
99 *Ibid.*
100 Buskey, Nikki. “Is seafood safe? Scientists raise questions.” Houma Courier in Terrebonne Parish, Lousiana December 13, 2010.
“Panel challenges Gulf seafood safety all-clear.” *MSNBC* updated 12/27/2010 accessed on January 4, 2011.
101 “Panel challenges Gulf seafood safety all-clear.” *MSNBC* updated 12/27/2010 accessed on January 4, 2011.
102 *Ibid.*
103 Marshall, Bob. “Safety of Gulf seafood debated 8 months after BP oil spill.” *The Times-Picayune* (Louisiana). December 19, 2010.
104 Marshall, Bob. “Federal guidelines for Gulf seafood safety questioned.” *The Times-Picayune* (Louisiana). December 8, 2010.
105 Buskey, Nikki. “Is seafood safe? Scientists raise questions.” *Daily Comet* (Lafourche Parish, Louisiana). December 13, 2010.
106 Marshall, Bob. “Safety of Gulf seafood debated 8 months after BP oil spill.” *The Times-Picayune* (Louisiana). December 19, 2010.
107 *Ibid.*
108 Marshall, Bob. “Federal guidelines for Gulf seafood safety questioned.” *The Times-Picayune* (Louisiana). December 8, 2010.
109 National Commission on the BP Deepwater Horizon Oil Spill and Offshore Drilling “Deep Water The Gulf oil Disaster and the Future of Offshore Drilling. Report to the President.” January 2011 at 187.
110 NOAA. “BP Oil Spill: NOAA Closes Federal Waters to Royal Red Shrimp Fishing.” Southeast Fishery Bulletin. November 24, 2010.
111 *Ibid.*
112 *Ibid.*
113 *Ibid.*

About Food & Water Watch: Food & Water Watch is a nonprofit consumer organization that works to ensure clean water and safe food. Food & Water Watch works with grassroots organizations around the world to create an economically and environmentally viable future. Through research, public and policymaker education, media and lobbying, we advocate policies that guarantee safe, wholesome food produced in a humane and sustainable manner, and public, rather than private, control of water resources including oceans, rivers and groundwater.

food&waterwatch

Copyright © April 2011 by Food & Water Watch. All rights reserved. This issue brief can be viewed or downloaded at www.foodandwaterwatch.org.

ATTACHMENT K

IN THE UNITED STATES DISTRICT COURT FOR THE SOUTHERN DISTRICT OF TEXAS HOUSTON DIVISION

UNITED STATES OF AMERICA, EX REL. KENNETH W. ABBOTT, ET AL.,	§	
Plaintiffs,	§	Civil Action No. 4:09-cv-01193
v.	§	Jury Trial Requested
BP EXPLORATION AND PRODUCTION INC., ET AL.,	§	
Defendants.	§	

DECLARATION OF MICHAEL E. SAWYER, P.E., CSP

I, Michael E. Sawyer, pursuant to the provisions of 28 U.S.C. §1746, declare I am more than 21 years of age, and competent to make this affidavit. The facts stated below are true and correct and are based on my personal knowledge, formal education, and professional experience.

Professional Background and Experience

1. I am a licensed Professional Engineer in the States of Texas and Massachusetts. I hold a Bachelor of Science in Safety Engineering from Texas A&M University and have over 29 years of experience in the area of process safety engineering in the oil and gas industries. I also maintain a Certified Safety Professional (CSP) certification.

2. My broad-based process safety experience includes upstream[1] I projects such as leading hazard analyses of Gulf of Mexico facilities for Pemex, Shell Exploration and Production, Shell Venezuela, Petrolera Zuata (Petrozuata Venezuela), and Chevron's Tombua-Landana platform.

[1] In the process industries, "upstream" refers to exploration and production, while "downstream" refers to refining and marketing.

3. I also have significant downstream process experience, such as analysis of process designs beginning with front-end engineering design and continuing through to final assessment and hazard analysis of the "approved" design. This experience includes projects such as world-scale ethylene production facilities, ammonia processing plants, and marine export terminals for oil and gas.

4. My experience also includes supporting the development and implementation of proactive process safety programs. Paramount to the development of these programs is document control and management of design changes. In addition, I have facilitated numerous audits of process safety programs and conducted detailed evaluations of engineering design documentation and management of design changes throughout my career.

Basis of This Declaration

5. This declaration and the opinions contained herein are based upon my review of the "GoM SPU – Atlantis Safety & Operations Audit 13 January 2010" [BPEP_ABB_04147214-04147262 (Audit Report) and BPEP_ABB_04147184-04147213 (Entity Verifiable Findings)] (S&O Audit) produced by BP, along with additional information pertaining to pressure safety valves referenced in the audit.

Atlantis Safety & Operations Audit

6. The Safety & Operations Audit included Atlantis operated facilities and support activities. It identified safety deficiencies such as:

6.1 failure to revalidate utility system HAZOP Studies, Finding No. 0935-006;

6.2 failure to resolve actions from 2009 HAZOP Studies, Finding Nos. 0935-003 and 014;

6.3 deficiencies in Atlantis Emergency Response Planning, Finding Nos. 0935-009 and 018;

6.4 lack of procedure or process for investigating excursions outside safe operating limits, Finding No. 0935-010;

6.5 pressure safety valves with relieving pressures up to 39% above set pressure, Finding No. 0935-020;

6.6 failure to maintain a register of carseal valve positions, Finding No. 0935-019;

6.7 no procedure for verifying operating procedures were followed, Finding No. 0935-025; and

6.8 lack of sizing calculations for 150 of 401 PSVs (pressure safety valves), Finding No. 0935-022.

7. While each of the safety deficiencies cited above indicate Atlantis produced for over 2 years with serious safety issues unresolved, this report only focuses on a critical and disturbing safety valve issue uncovered by the S&O Audit. The audit team determined that as of January 2010, the date of the audit, 150 of 401 (37%) pressure safety valves onboard Atlantis did not have sizing calculations. Simply stated, over a third of the vessels, systems, and equipment onboard Atlantis were in danger of catastrophic overpressure during an upset condition because of improper or lack of design basis for the safety relief valves. As highlighted in BP's S&O Audit, the PSV issue impacted suitability for service of the platform.

8. Additional production system requirements, as specified at 30 CFR 250.803(b)(1)(i), require relief valves to be designed, installed, and maintained in accordance with ASME. This section specifically requires that "relief valves shall conform to the valve sizing and pressure relieving requirements specified in these documents" (ASME). Each pressure safety valve should have a unique design basis that details its capability to protect against pressure excursions. The design basis becomes a part of the process safety information pertaining to the equipment and is vital for ensuring mechanical integrity and fitness for service.

9. Although first oil was in October 2007, the date that all critical design documentation should have been available and verified, BP did not identify the design issues with pressure safety valves until the 2010 Audit. Atlantis had been operating for well over 2 years without adequate engineering data for over a third of its PSVs. This is not only a violation of 250.803 requirements, but represents an unacceptable level of risk to operations. In addition, it leads to questions as to how BP complied with the provisions of 250.804(a)(2) requiring all PSVs to be tested annually when design details for a third of its PSVs did not exist.

10. Searches of documents produced by BP uncovered a large number of safety valve sizing calculations re-created by Worley Parsons sometime after the 2010 S&O audit. During the sizing study, Worley Parsons found that a number of valves in service are inadequate (undersized), others had missing data that is now unavailable from the manufacturer, and still others had missing and/or incomplete inlet/outlet piping calculations.

Pressure Safety Valve Design

11. Failure to assess relief capacity is a very serious life safety, as well as loss control issue. The criticality of pressure safety valves is underscored by the fact that API has dedicated several recommended practices for sizing, installation, and design of depressuring systems and ASME has specific safety and relief valve requirements as outlined in ASME VIII.

12. Inadvertent hydrocarbon releases resulting from loss of containment are a commonality shared by the Deepwater Horizon and BP Texas City disasters. In the Deepwater Horizon case, the well blowout was directed to the mud gas separator, instead of directly to off rig relief. The blowout quickly overwhelmed the separator system and allowed liquid hydrocarbons and gas onto the rig itself, resulting in loss of life and destruction of the rig. At Texas City, unit relief valves had been rerated due to corrosion of the tower and were improperly routed to an atmospheric drum. The escaping hydrocarbon quickly found an ignition source and exploded, killing 15 people and injuring hundreds more.

13. In accordance with API RP 14C, as incorporated by reference at 30 CFR 250.198, the safety system should provide two levels of protection to prevent or minimize the effects of equipment failure. These two levels should be independent of and in addition to the control devices. Process safety valves are typically used as a secondary level of protection because the PSV, when properly sized, prevents rupture of equipment by relieving excess volumes or pressure to a safe location.

14. Principal causes of overpressure and guidance for developing means to prevent equipment from exceeding its maximum allowable pressure

are described in API recommended practices, such as API RP 520 and 521. When assessing pressure safety valves, plausible scenarios, as recommended by API, are developed to determine the most credible worst case scenarios. This practice is adhered to throughout the oil and gas industries, including upstream operations, and this recognized methodology was used by Worley Parsons in their sizing checks.

15. Pressure safety valves are selected on the basis of their ability to meet an expected relieving condition, flowing a sufficient amount of fluid and/or gas to prevent excessive pressure increase that could damage equipment and result in a subsequent release of hazardous energy, i.e. loss of containment. This means that the size of the valve orifice must be calculated taking into consideration several factors, among which the most credible or plausible worst case scenario is of primary importance.

16. The aforementioned sizing study by Worley Parsons clearly identified some pressure safety valves that are inadequate and noted the design basis documentation was missing and/or incomplete in others.

17. One of the Atlantis PSVs identified as inadequate is PSV-41003 [BP Document Number 1440-20-PR-CA-0003-016]. It is located in the Production module of the Atlantis platform and is intended to protect a 16" oil pipeline. The size of the current safety valve is 2" x 3" with an area of 2.895 in^2 and the required valve sizing for the worst case scenario as determined by Worley Parsons sizing study was 59.472 in^2. This would require a significantly larger PSV or combination of PSVs to achieve the required flow capacity.

18. The most credible and plausible scenario requiring operation of PSV-41003 was determined to be a power failure affecting the pipeline pumps. A

power failure shutting down the Pipeline Pumps, PAX-4111/4121/4131/4141, with leakage through the check valve back to the oil pipeline would result in excessive backflow. In addition, 4 other PSVs relieve into PSV-41003, which could subsequently result in the need to relieve flows from each pump relief through PSV-41003. Failure of PSV-41003 to relieve the required excess capacity during an upset could result in loss of containment of hydrocarbons within the production module and subsequent fire and/or explosion.

19. The worst case scenario for PSV-41003 selected by Worley Parsons is consistent with recognized API recommended practice. Check valve failure is quite common. In fact, when conducting HAZOP Studies, a check valve is not an acceptable safeguard. According to API RP 520 (2007) Section 4.3.4.4, check valves cannot be relied on to be leak free for relief purposes.

20. Two other high pressure PSVs identified by Worley Parsons as inadequate are PSV-42401 and PSV-42402 (BP Document Number 1440-20-PR-CA-0003-063). These valves are intended to protect the Flotation Cell vessel, MBD-4240, located in the Generation module. The valves are 6" x 8" with a combined sizing area of 31.716 in^2. Multiple worst case scenarios resulting in gas blowby conditions, liquid slugging, and two-phased flow defined required sizing areas of 47.34 in^2 for gas blowby to a controlling case of 89.711 in^2 combined sizing area. To adequately protect the Flotation Cell vessel an additional 6" x 8" valve would be required.

21. Application of API recommended scenarios for overpressure identified inadvertent valve opening as the scenario for PSV-42401 and PSV-42402 that represented worst case conditions. Inadvertent opening of a by-pass valve would result in loss of liquid in the Flotation Cell and subsequent gas blow

through that could overpower the relief valves and release volatile gas onto the platform with potential for a fire and/or explosion.

22. The 2003 Topsides HAZOP Study, BP Document Number 1440-20-HS-RP-6009, identified overpressure scenarios and recommended PSV-42401 and PSV-42402 sizing consider gas blowby conditions. (See HAZOP Reference Nos. 60.13 and 60.15A) However, the HAZOP team did not identify inadvertent valve opening scenario as was determined by the Worley Parsons sizing study to be the controlling case for sizing the Flotation Cell pressure reliefs.

Conclusion

23. After review of the S&O Audit, along with available pressure safety valve information and Worley Parsons size checks, it is concluded that the Atlantis platform was, and likely remains, operating without adequate safeguards against overpressure conditions and in violation of 30 CFR 250.803(b)(1)(i) and recognized good engineering practice. During the sizing study prepared by Worley Parsons, deficiencies among installed PSVs were identified. This represents an unacceptable risk to operations and directly affects the suitability for service of the platform. Design deficiencies among safety critical systems such as PSVs can lead to loss of containment during process upsets as experienced in previous incidents and disasters, the most recent being Deepwater Horizon and BP Texas City. It is also concluded that BP has been aware of the deficiency.

I declare under penalty of perjury under the laws of the United States of America that the foregoing is true and correct.

Executed this 30th day of March, 2012 in Houston Texas.

MICHAEL E. SAWYER, P.E., CSP